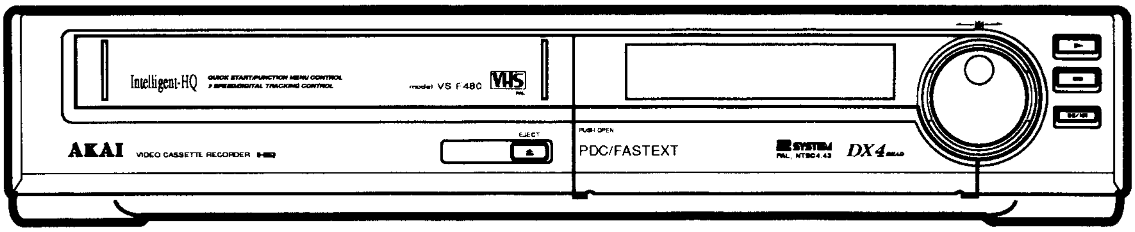
VS-F440,441
VS-F450,455
VS-F480,490,497

AKAI SERVICE MANUAL


Intelligent-HQ
model VS F480
VHS
AKAI VIDEO CASSETTE RECORDER
EJECT
PDC/FASTEXT
DX4

MODEL VS-F480EK-V

HQ HIGH QUALITY
VHS PAL

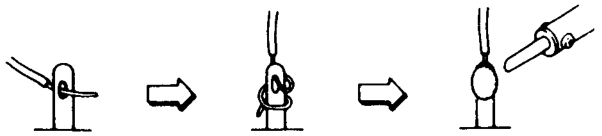
VIDEO CASSETTE RECORDER

MODEL VS-F440EA/EDG/EDI/EK/EM EO/EOG-V/EOH
MODEL VS-F441EA
MODEL VS-F450EOH
MODEL VS-F455EOH
MODEL VS-F480EK-V/EOG-V
MODEL VS-F490EM/EO/EOH/ES
MODEL VS-F497EOH

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (✻) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with the specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (insulating barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions.
The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M ohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.
Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

TO PROTECT THE POWER SUPPLY CIRCUIT

Do not turn on the power while the flat cable in the power BLK is disconnected, as this will damage the power circuit.
Make sure that the flat cable is connected before turning on the power.

★SPECIFICATIONS

Format	
EA/EDI/EK/EK-V/ES	VHS standard
EDG/EM/EO/EOH/EOG-V	VHS standard (PAL, MESECAM)
Video recording system	Rotary, slant azimuth two-head helical scan system
Rotary heads	4 video heads
RF input	
EA	System B, G VHF ch 0 - 5, 5a, 6 - 11 UHF ch 21 - 69
EDG	System D, K VHF ch1 - 12, UHF ch 21 - 69 System B, G VHF ch 2 -12, UHF ch 21 - 69
EDI	System D,K,I VHF ch 1 -12 (China) UHF ch 21 - 69 (Hong Kong) ch 13 - 56 (China)
EK/EK-V	System I UHF ch 21 - 69
EM	System B, G (PAL, SECAM) VHF ch 2 -12, UHF ch 21 - 69
EO/EOG-V	System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1' -S3', S1 - S20
EOH	System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1'- S3', S1 - S41
ES	System I VHF ch A - J (Ireland) ch 4 - 13 (South Africa) UHF ch 21 - 69
RF output	
EA	System B type modulation VHF ch 0, 1 switchable (preset ch 1)
EDG	System K / G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EDI	System I / K type modulation UHF ch 30 - 39 adjustabie (preset ch 36)
EM	System B type modulation VHF ch 3,4 switchable (preset ch 4)
EK/EK-V/ES	System I type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EO/EOG-V/EOH	System G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
Recording (line input)	
EA/EK/ES	PAL
EDG/EDI/EK-V/EM/ EO/EOG-V/EOH	PAL, SECAM (recorded as MESECAM)
Playback (line output)	
EA/EK	PAL
EDG/EDI/EO/ EOG-V/EOH	PAL, SECAM (MESECAM Tape)
EM/F497EOH	PAL, SECAM (MESECAM tape) NTSC 4.43 (NTSC tape) Simulated PAL (NTSC tape playback only)
ES/EK-V	PAL NTSC 4.43 (NTSC tape) Simulated PAL (NTSC tape playback only)

Video	
Line input level	0.5 - 2.0 Vp-p/75 ohms, unbalanced
Line output level	1.0 Vp-p/75 ohms, unbalanced
S/N ratio	More than 45dB
Horizontal resolution	More than 250 lines
Audio	
Line input level	−6 dBs/50 k ohms, unbalanced
Line output level	−6 dBs/1 k ohms, unbalanced
S/N ratio	More than 40 dB
Frequency response	70 - 10,000 Hz
Recording/playback time	
SP mode	240 min. with E-240 cassette
LP mode	480 min. with E-240 cassette
NTSC playback only (EK-V/EM/ES/F497EOH)	
SP mode	160 min. with T-160 cassette
EP mode	480 min. with T-160 cassette
Tape speed	
SP mode	23.39 mm/sec.
LP mode	11.695 mm/sec.
NTSC playback only (EK-V/EM/ES/F497EOH)	
SP mode	33.35 mm/sec.
EP mode	11.12 mm/sec.
Quick finder	
SP mode (JFX-L type)	Approx. 9 times normal speed
LP mode (JFX-L type)	Approx. 5 times normal speed
SP mode (JFX type)	Approx. 5 or 13 times normal speed
LP mode (JFX type)	Approx. 3 or 7 times normal speed
NTSC playback only	
F440EM	
SP mode	Approx. 7 times normal speed
EP mode	Approx. 9 times normal speed
F480EK-V/ES, F490EM/EOH	
SP mode	Approx. 5 or 9 times normal speed
EP mode	Approx. 5 or 13 times normal speed
FF, REW time	Approx. 5 min. with E-180 cassette
Timer	
Program (JFX-L)	8 programmes / 1 year
Program (JFX)	8 Programmes / year and QUICK TIMER
Clock reference	Quartz crystal
Display	TV screen & FL (Tape counter, Timer etc.)
Power requirements	
EA/EK/EK-V	240 V AC, 50 Hz
EDG/EDI/ES	220 V AC, 50 Hz
EO/EOG-V/EOH	220-230 V AC, 50 Hz
EM	110-127/220-240 V AC, 50/60 Hz
Power consumption	
EA/EDG/EDI/EK/ EK-V//EM/ES	36 W
EO/F440EOG-V/EOH	37 W
F480EOG-V	38 W
Operating temperature	5°C - 40°C
Dimensions	
JFX-L	426(W) x 82(H) x 314(D) mm
F441EA	425(W) x 82(H) x 313(D) mm
JFX	426(W) x 82(H) x 323(D) mm
Weight	5.0 kg

Standard accessories

Antenna cable	1
Remote control unit	1
Batteries for remote control	2 (JFX-L)
Batteries for remote control	3 (JFX)
Operator's manual	1

0 dBs = 0.775 V

* For improvement purposes, specifications and design are subject to change without notice.

★INFORMATION

SYMBOLS OF MODEL NAMES FOR PRIMARY DESTINATION

The symbols below indicate the destination of each unit.

Symbol	Power Classification	Principal Destination	TV System	
			Color	Broadcast
EA	S	Australia	PAL	B,G
ED	E	China	PAL	D
EDG	E	East Europe	PAL	D,K
EDI	E	China, Hong Kong	PAL	D,K, I
EG	E	Spain, Northern Europe, Other	PAL	B,G
	Y7	Saudi Arabia		
EK	B	U.K	PAL	I
	Y1	Hong Kong		
EM	E	Middle East	PAL	B,G
	Y7	Saudi Arabia		
EO	E	Holland, Switzerland, Nothern Europe	PAL	B,G
	V	Italy		
EOH	E	Holland, Belgium	PAL	B,G
	V	Italy		
EOG	V	Germany	PAL	B,G
ES	E	South Africa, Ireland, Hong kong	PAL	I
EV	E	South-East Asia	PAL	B,G
	U	Middle East, South -East Asia		
	Y1	New Zealand		
	Y7	Saudi Arabia		
EZ	S	New Zealand	PAL	B,G
EGN	E	Middle East	PAL,NTSC	B,G
	Y7	Saudi Arabia		
S	E	France	SECAM	L
SK	E	Latin America, Oceania, SECAM-OIRT	SECAM	K,K1
SEG	E	France, Switzerland	SECAM, PAL	L,B,G
U	A	U.S.A	NTSC	M
	C	Canada		
UM	U	Latin America	NTSC	M
J	J	Japan	NTSC	M

CATEGORY CODES USED IN THIS MANUAL

CATEGORY CODE	TYPE	MODEL NUMBER
JFX-L	4 VIDEO HEAD L-TYPE	VS-F440EA/EDG/EDI/EK/EM/EO /EOG-V/EOH VS-F441EA VS-F450EOH VS-F455EOH
JFX	4 VIDEO HEAD	VS-F480EK-V/EOG-V VS-F490EM/EO/EOH/ES VS-F497EOH

SAFETY LOCK SYSTEM

The play button on the VCR and remote control can be locked to prevent access by young children (this feature does not effect other functions of the VCR).
This feature can only be operated by the remote control.

To lock : Press and hold the remote control's stop button for approx. 8 seconds. As long as the play button is locked, safety lock indicator " L" will light on the FL display and "🔑" will flash on the TV screen any time the play button is pressed.

To unlock : Press and hold the remote control's play button for approx. 8 seconds. If a tape is loaded, the safety lock indicator will disappear from the FL display and TV screen, and playback will begin automatically.

MULTI-FUNCTION MENU MODE

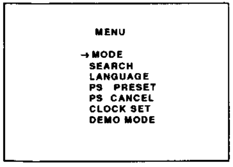
This is an on-screen display of the various modes you can programme via the TV screen.

MODE : To select the AV MUTE and OSD modes and tape speed. (SP/LP SELECT)
SEARCH : To select the BLANK SEARCH and INTRO SCAN modes.
LANGUAGE : To select a language for the on-screen displays.
PS PRESET : To preset TV stations.
PS CANCEL : To cancel preset TV stations.
CLOCK SET : To set the clock.
VPT SET : To set the VPT (JFX only)
DEMO MODE : To demonstrate some of the modes available on this VCR.

If necessary, refer to the respective sections in the operator's manual for detailed information.

1. Press the "MENU" button on the remote control unit. The menu list screen will be displayed on the TV screen.
   The arrow indicator is automatically set to the "MODE" position.

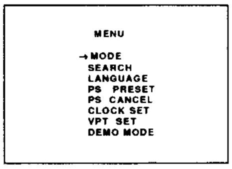
(JFX-L ONLY)



MENU

→MODE
SEARCH
LANGUAGE
PS PRESET
PS CANCEL
CLOCK SET
DEMO MODE

(JFX ONLY)



MENU

→MODE
SEARCH
LANGUAGE
PS PRESET
PS CANCEL
CLOCK SET
VPT SET
DEMO MODE

2. Select the desired mode by setting the arrow indicator to the appropriate position with cursor "∨" button. The arrow indicator moves downwards each time the button is pressed. Pressing the cursor "∧" button will move the arrow indicator upwards.
3. Press the "OK" button.
   The selected function screen will be displayed on the TV screen.

* Press the "MENU" button again to return to the normal screen.

MANUAL TRACKING/PICTURE/STABILITY ADJUSTMENT

The VCR can be adjusted for tracking and picture sharpness anytime it is in the playback mode with the remote control unit.

- **Manual tracking control**
  Press the "<" or ">" cursor botton repeatedly until the picture is clear. During manual tracking adjustment, the tracking position is shown on the TV screen, this will disappear automatically after adjustment has been completed. Use this function when performing the A/C HEAD phase adjustment.

- **Picture sharpness control**
  Press the "∧" button repeatedly to sharpen the picture or press the "∨" button to soften the picture.

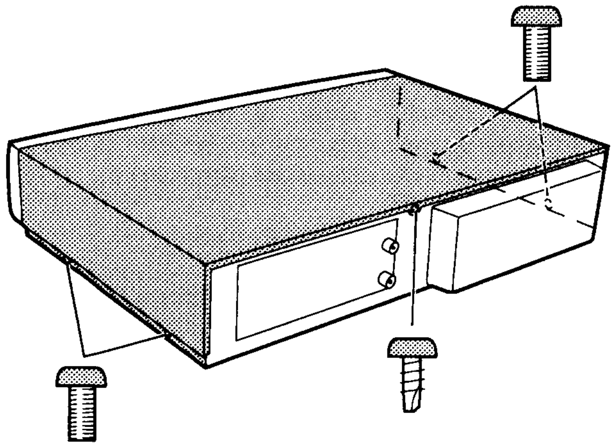
- **Stability adjustment**

1) To correct picture shake during the slow motion or still mode:
   Press "∧" or "∨" cursor button until the picture shake is corrected.
2) To correct tracking during the still mode:
   Press the "<" or ">" cursor button repeatedly until the picture is clear.

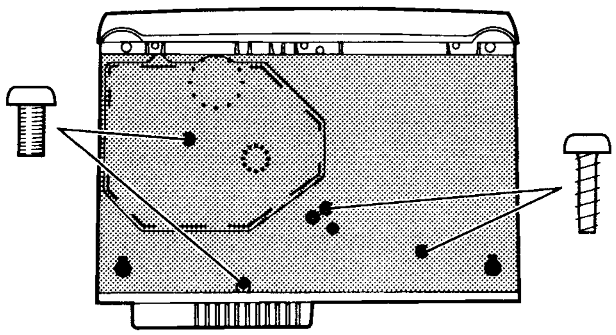
I. DISASSEMBLY

In case of trouble,etc. necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in the reverse order.
When reattaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

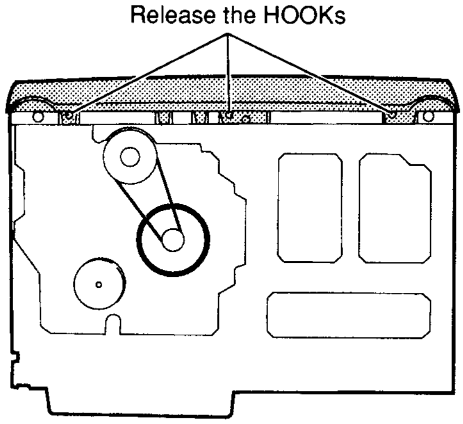
1. Removal of UPPER COVER

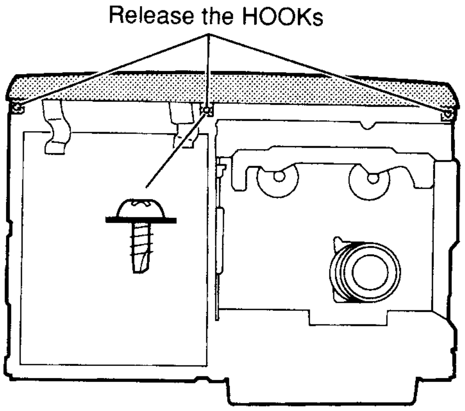


2. Removal of BOTTOM COVER

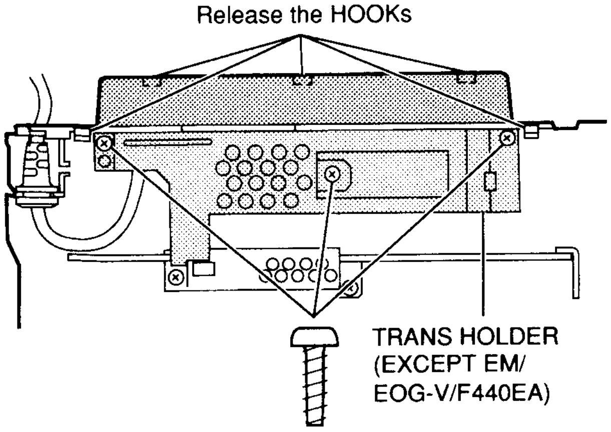


3. Removal of FRONT PANEL

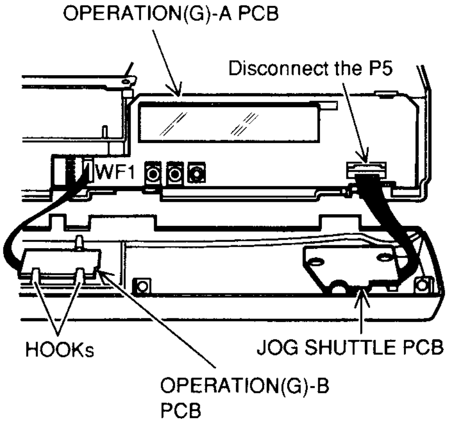

Release the HOOKs


Release the HOOKs

4. Removal of TRANS COVER


Release the HOOKs
TRANS HOLDER
(EXCEPT EM/
EOG-V/F440EA)

(JFX-L only)


OPERATION(G)-A PCB
Disconnect the P5
WF1
HOOKs
JOG SHUTTLE PCB
OPERATION(G)-B
PCB

(JFX only)

While pressing the hooks outward, pull the operation (G)- B PCB upward to remove it.

II. PRINCIPAL PARTS LOCATION

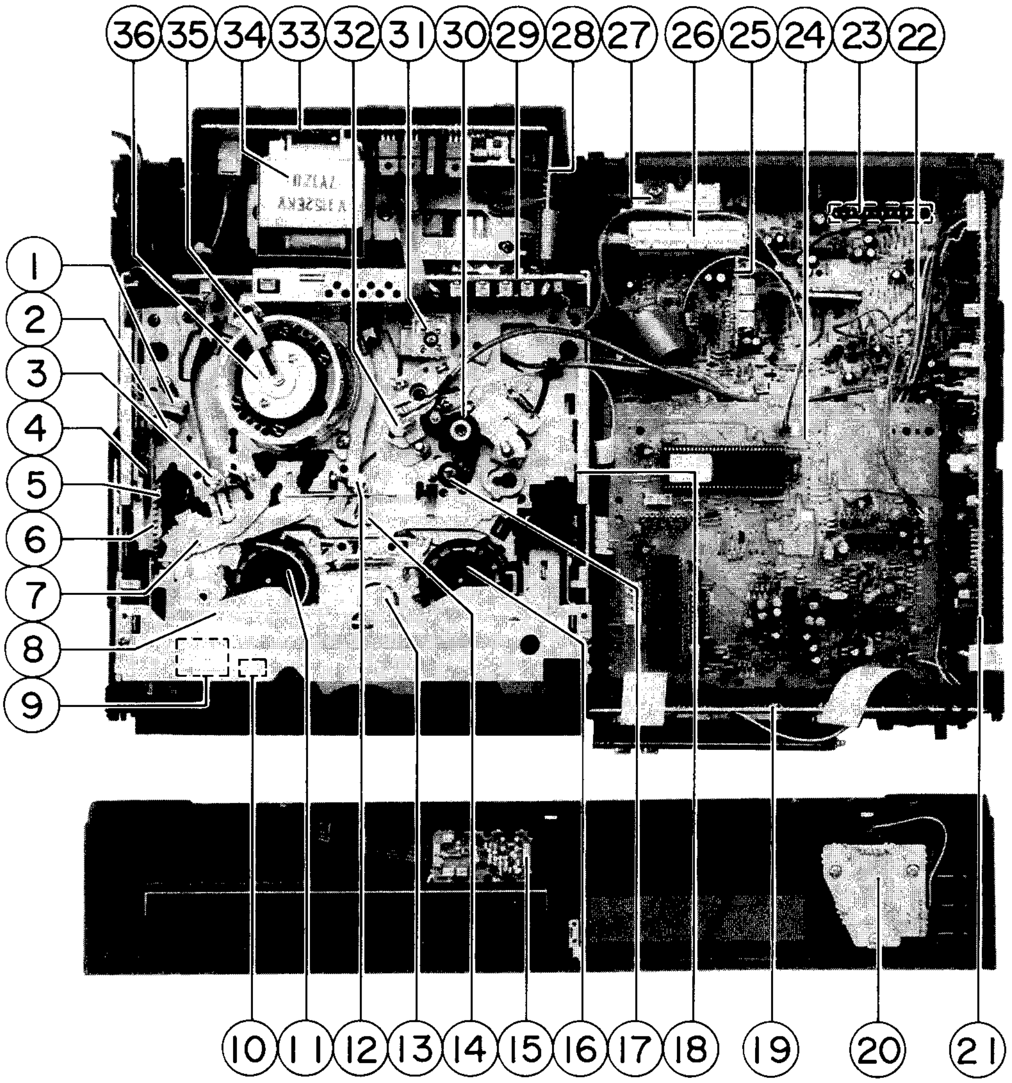


Fig. 2-1 Top view

1. FULL TRACK ERASE HEAD
2. SUPPLY TAPE GUIDE
3. SUPPLY LOADING LEADER
4. SENSOR (S) PCB (END SENSOR)
5. FRONT LOADING GEAR
6. FRONT LOADING SLIDER
7. TENSION ARM
8. CASSETTE LOAD BLK
9. LOADING MOTOR
10. REC SAFETY SWITCH
11. SUPPLY REEL TABLE
12. TAKE UP LOADING LEADER
13. IDLER PART
14. SENSOR LED
15. OPERATION (G)-B PCB (JFX ONLY)
16. TAKE UP REEL TABLE
17. CAPSTAN MOTOR
18. SENSOR (T) (START SENSOR)
19. OPERATION (G)-A PCB (JFX ONLY)
    OPERATION (A) PCB (JFX-L ONLY)
20. JOG SHUTTLE PCB (JFX only)
21. MAIN (B) PCB
22. MAIN (A) PCB
23. SUB PCB (EM only)
24. VPST/PDC PCB (EK-V/EOG-V only)
    PDC PCB (F440/F450/F490/F497EOH: OPTION)
25. VIF UNIT
26. TUNER UNIT
27. RF CONVERTOR UNIT
28. POWER SUPPLY (2) PCB (EM, EOG-V only)
29. PRE AMP PCB
30. PINCH ROLLER
31. DIODE PCB (EM, EO, EOG-V, EOH only)
32. AUDIO / CONTROL / S. ERASE HEAD
33. POWER SUPPLY (1) PCB (EM, EOG-V only)
    POWER SUPPLY PCB (except EM, EOG-V)
34. POWER TRANSFORMER
35. EARTH BRUSH
36. VIDEO HEAD DRUM BLOCK

*Photograph employed on this page is of model VS-F480EK-V

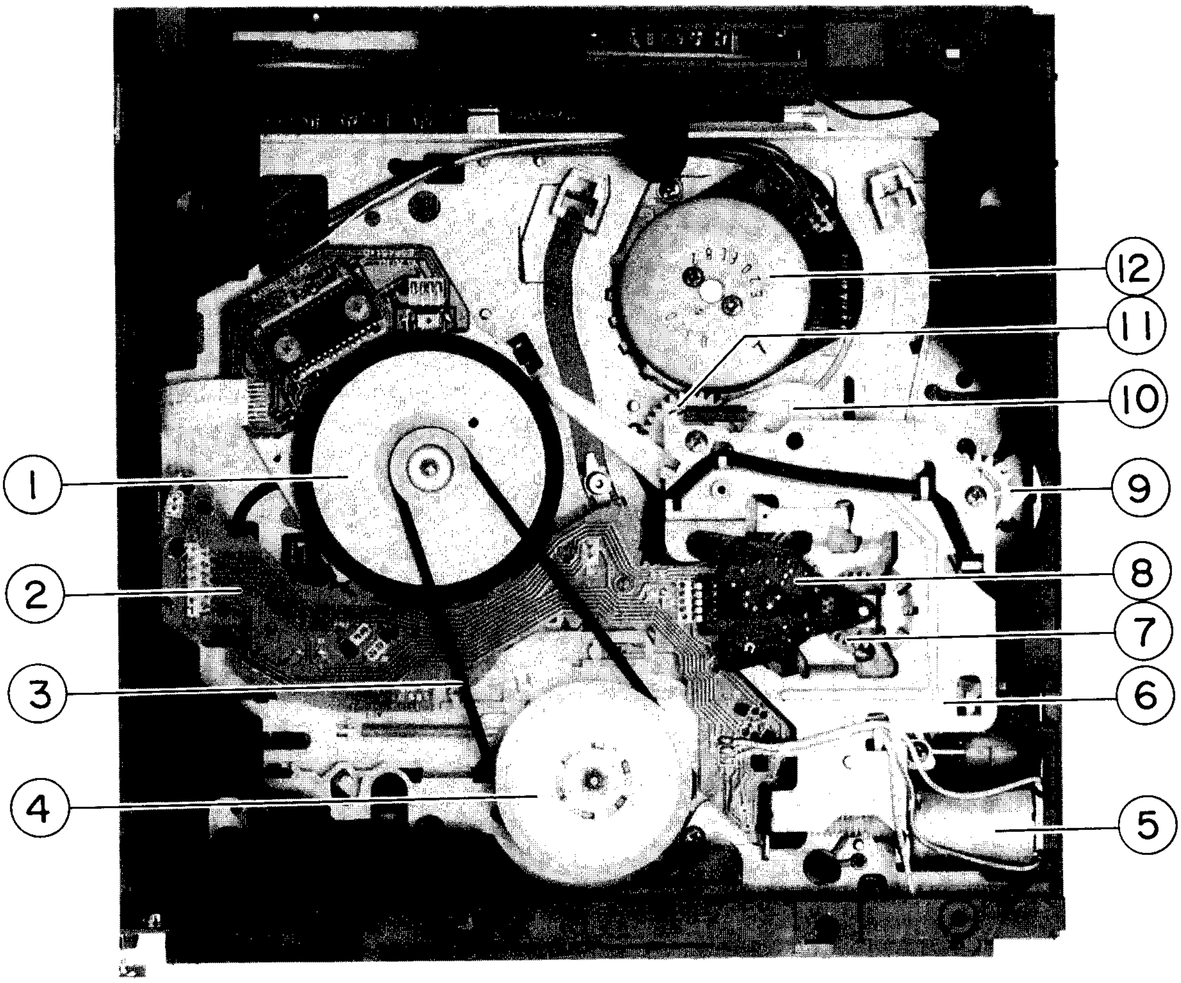


Fig. 2-2 Bottom view

1. CAPSTAN MOTOR BLOCK
2. SENSOR PCB
3. CAPSTAN BELT
4. CLUTCH DISK PART
5. LOADING MOTOR
6. LOADING DRIVE BLOCK
7. CAM SLIDER GEAR
8. MODE SELECT SWITCH
9. FRONT LOADING GEAR
10. TOGGLE (S) GEAR BLOCK
11. TOGGLE (T) GEAR BLOCK
12. DRUM MOTOR BLOCK

III. MAIN COMPONENTS REPLACEMENT

3-1.REMOVAL OF THE EJECTOR BLOCK

Set the loading mechanism to the "EJECT" position by pressing the EJECT button. Then disconnect the AC power plug from the AC socket before proceeding.

3-1-1. Removal of the CASSETTE LOAD BLK

1) Remove the two Ⓐ screws on the UPPER PLATE, as shown in Fig. 3-1 then remove the UPPER PLATE.
2) Lift up the FRONT GUIDE while pushing the CASSETTE LOAD BLK backwardS, then remove the FRONT GUIDE.
3) Gently lift up the front side of the CASSETTE LOAD BLK, then remove it. To avoid damaging the pins of the CASSETTE LOAD BLK and the groove of the MECHA. FRAME, do not use excessive force when removing the CASSETTE LOAD BLK.

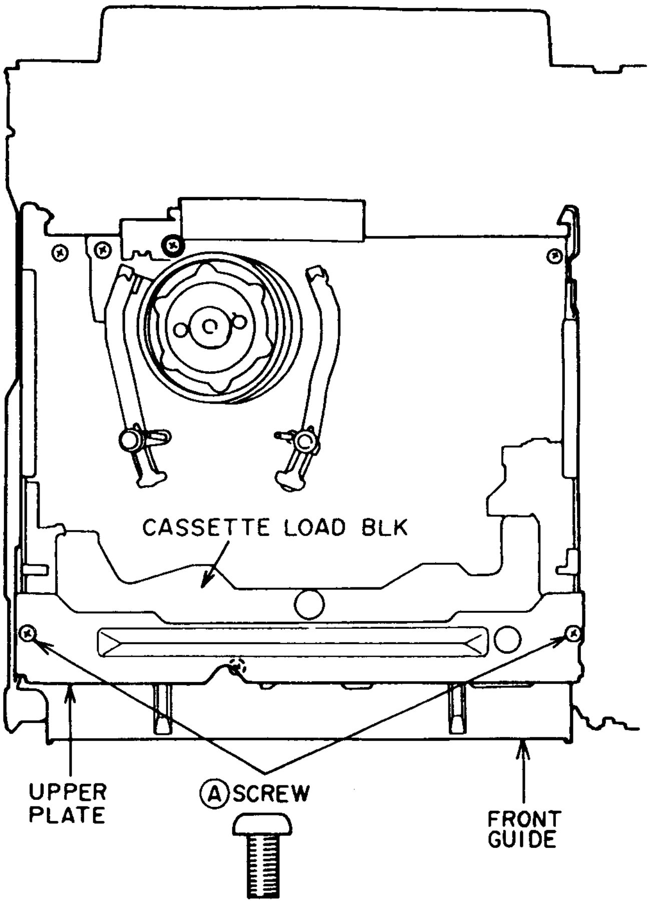
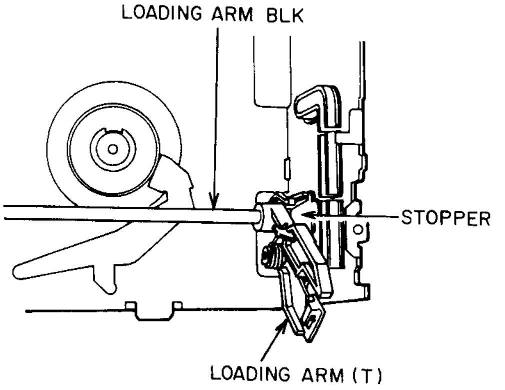

CASSETTE LOAD BLK
UPPER PLATE
ⒶSCREW
FRONT GUIDE

Fig. 3-1

3-1-2. Removal of the LOADING ARM BLK

1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer to Fig. 3-2) by pressing the stopper tab with a flat head (➖) screwdriver. Then remove the shaft's right end from the bracket.

(JFX-L ONLY)


LOADING ARM BLK
STOPPER
LOADING ARM (T)

(JFX ONLY)

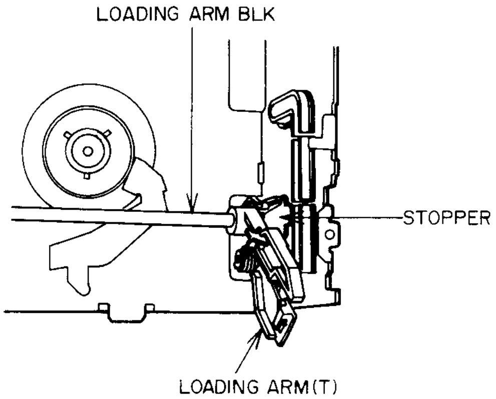

LOADING ARM BLK
STOPPER
LOADING ARM(T)

Fig. 3-2

2) Hold the LOADING ARM (T) and turn it 30 degrees clockwise, then pull out the shaft's left end from the bracket. Take special care when removing it to avoid damaging the JOINT and EJECT GEARs. (Refer Fig. 3-3)

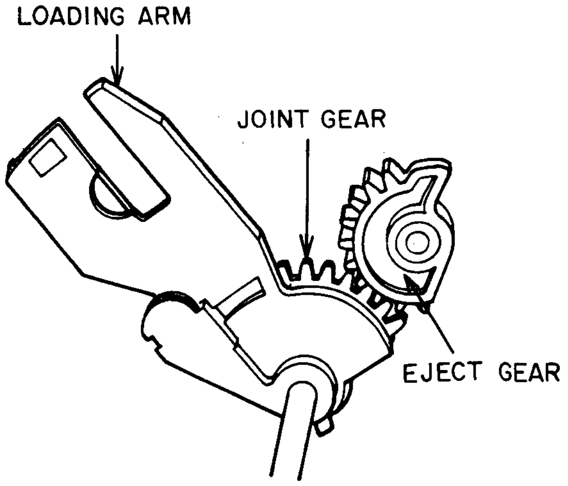

LOADING ARM
JOINT GEAR
EJECT GEAR

Fig. 3-3

3-2.REMOVAL OF THE SENSOR PC BOARD

* Before proceeding with removal of the SENSOR PCB, the loading mechanism must be set to the "unloaded" position (the position where the CAM SLIDER GEAR's groove mark is visible through the hole of the MODE SELECT SW.) as shown in Fig. 3-4.

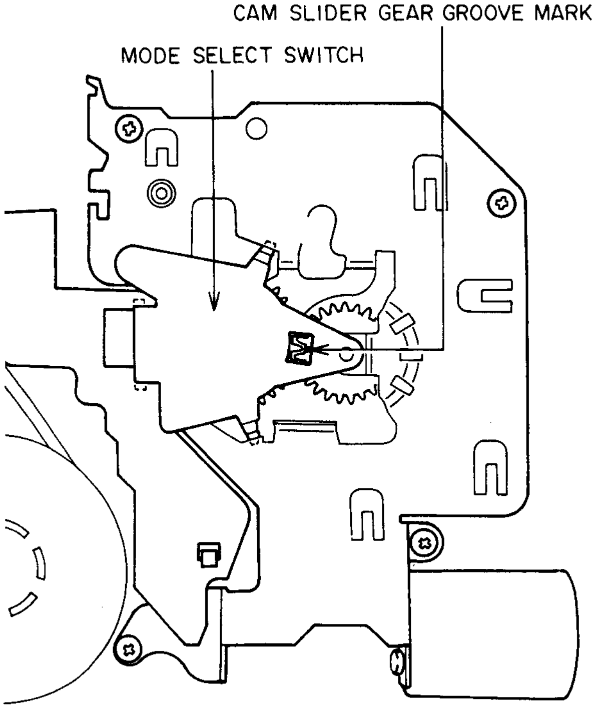


Fig. 3-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following procedures.

1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or has entered the "play" mode, press the POWER button to turn the power off. Disconnect the AC power plug from the AC socket after the cassette tape has been unloaded.
2) Remove the UPPER PLATE, FRONT GUIDE and CASSETTE LOAD BLK. (Refer to 3-1-1. Removal of the CASSETTE LOAD BLK.)
   Plug in the AC power cord. The LOADING ARM BLK will move backward and forward continuously. With your fingers, cover and hold both the SENSOR (S) and SENSOR (T) at the same time when the LOADING ARM BLK is in the backward position. The unit will enter the "play" mode without a cassette tape. Then release your fingers from both the sensors at the same time. After about 10 seconds (when the PINCH ROLLER is disengaged from the CAPSTAN and the SUPPLY REEL stops rotating, and the mechanism is set to "standby"), press the POWER button on the OPERATION (A) or (G)-A PCB.
   The mechanism will now be set to the "tape unloaded" position.
   Disconnect the AC power plug from the AC power socket.

3-2-1. Removal of the MODE SELECT SWITCH

1) Release the two Ⓐ stoppers as shown in Fig. 3-5.

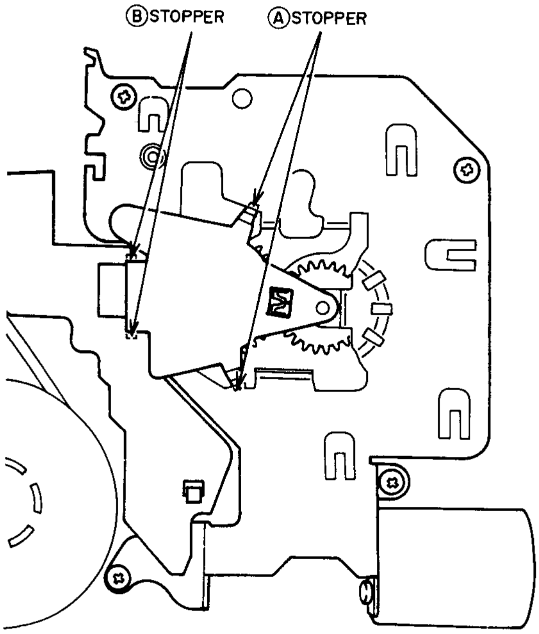


Fig. 3-5

2) Release the two Ⓑ stoppers carefully while pulling up the MODE SELECT SWITCH. Then remove the MODE SELECT SWITCH. (Do not damage the pins of the MODE SELECT SWITCH or the P1 connector on the SENSOR PCB).

3-2-2. Removal of the SENSOR PC Board

1) Disconnect the connector P303 on the MAIN (A) PCB.
2) Remove the capstan belt.
3) Release the Ⓐ, Ⓑ and Ⓒ stoppers as shown in Fig. 3-6. Then remove the SENSOR PCB.

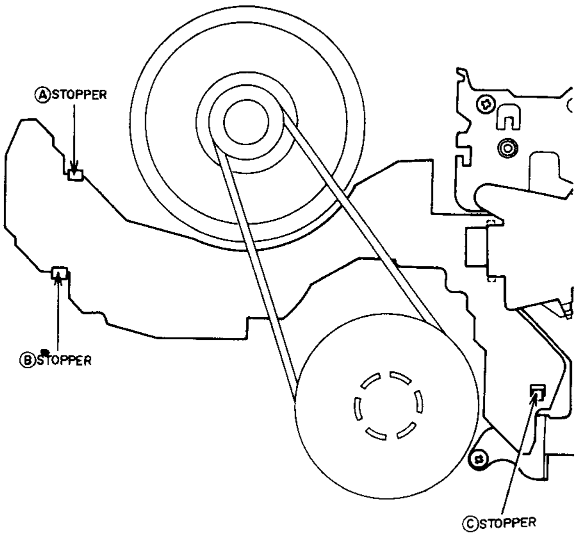


Fig. 3-6

3-3. REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism to the "unloaded" position as well as 3-2 (REMOVAL OF THE SENSOR PC BOARD). However, this time, to avoid damaging the tape and mechanical parts, refer to 3-2, ∗ 2) only.

1) Remove the MODE SELECT SWITCH (refer to 3-2-1 Removal of the MODE SELECT SWITCH).
2) Unhook the five wires from each tab. Two wires from the SENSOR (S), two wires from the LOADING MOTOR and one wire from the REC SAFETY SWITCH.
3) Remove the Ⓐ, Ⓑ, Ⓒ and Ⓓ screws, then remove the LOADING DRIVE BLK as shown in Fig. 3-7.

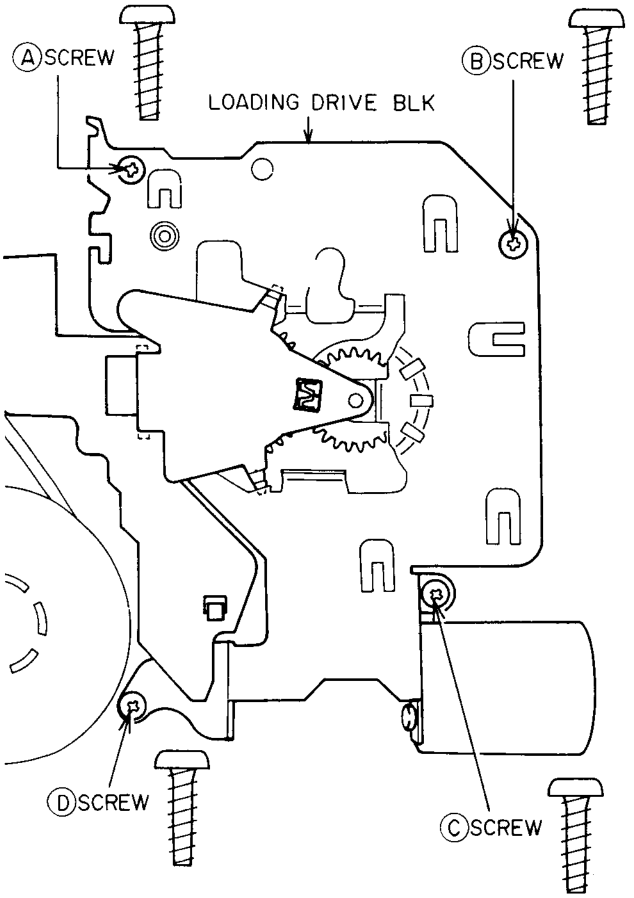

ⒶSCREW
ⒷSCREW
LOADING DRIVE BLK
ⒹSCREW
ⒸSCREW

Fig. 3-7

3-4. REASSEMBLY OF THE LOADING MECHANISM BLK

3-4-1. Position of the TOGGLE GEARs (T) and (S)

1) Set the TOGGLE GEARs (T) and (S) to the unloaded position with your fingers. Align the Ⓐ mark on TOGGLE GEAR (S) with the Ⓐ hole of TOGGLE GEAR (T) as shown in Fig. 3-8.

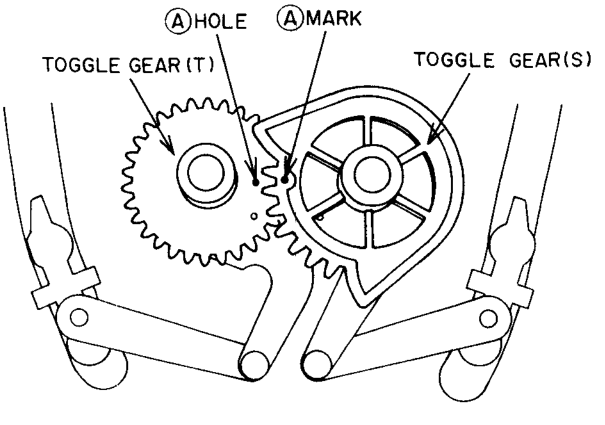

ⒶHOLE
ⒶMARK
TOGGLE GEAR(T)
TOGGLE GEAR(S)

Fig. 3-8

3-4-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

1) Attach the WORM WHEEL GEAR as shown in Fig. 3-9.

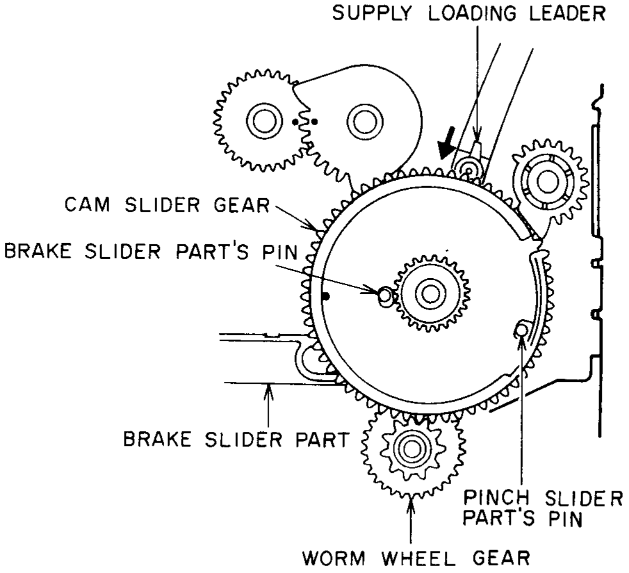

SUPPLY LOADING LEADER
CAM SLIDER GEAR
BRAKE SLIDER PART'S PIN
BRAKE SLIDER PART
PINCH SLIDER PART'S PIN
WORM WHEEL GEAR

Fig. 3-9

2) Set the CAM SLIDER GEAR and adjust the position of the BRAKE SLIDER PART and PINCH SLIDER PART so that both pins appear through the holes on the CAM SLIDER GEAR as shown in Fig. 3-9. When inserting the CAM SLIDER GEAR onto its shaft, press the SUPPLY LOADING LEADER slightly in the direction of the arrow to make installation easy.

3) Attach the FRONT LOADING GEAR as shown in Fig. 3-10 and align the Ⓑ mark on the FRONT LOADING GEAR with the Ⓑ hole of the FRONT LOADING SLIDER as shown in Fig. 3-11.

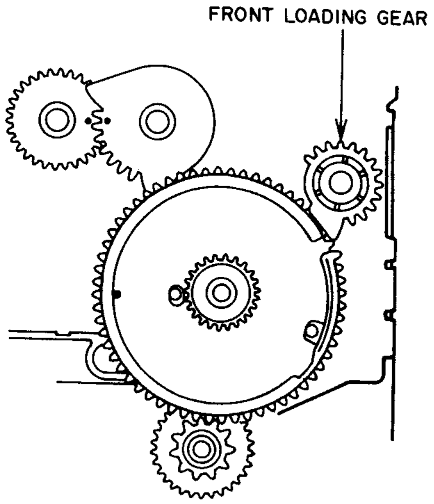

FRONT LOADING GEAR

Fig. 3-10

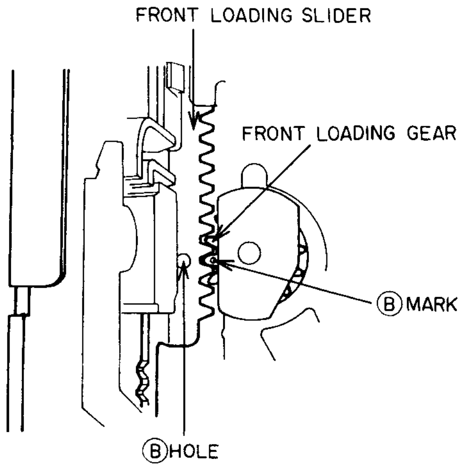

FRONT LOADING SLIDER
FRONT LOADING GEAR
Ⓑ MARK
Ⓑ HOLE

Fig. 3-11

3-4-3. Confirmation of the position of the EJECT GEAR

1) Confirm that the EJECT GEAR is in the correct position as shown in Fig. 3-12.

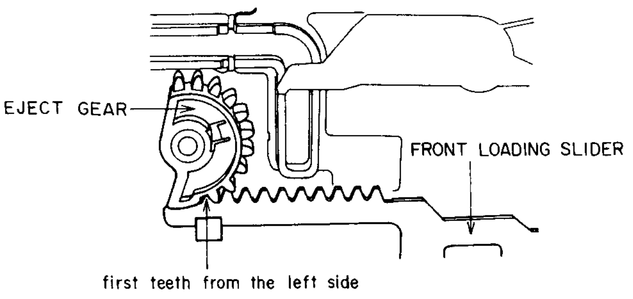

EJECT GEAR
FRONT LOADING SLIDER
first teeth from the left side

Fig. 3-12

2) Install the LOADING DRIVE BLK as shown in Fig.3-13.

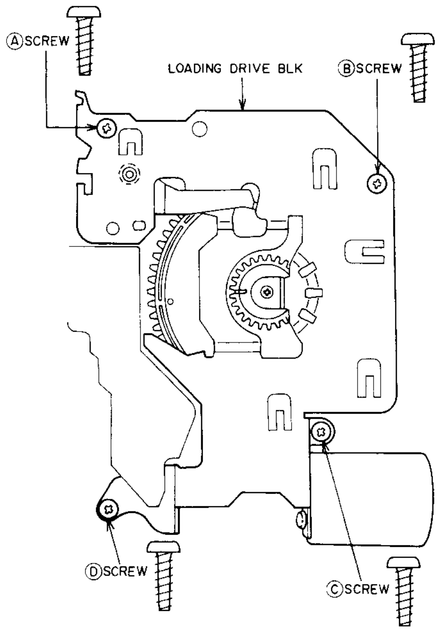

Ⓐ SCREW
LOADING DRIVE BLK
Ⓑ SCREW
Ⓓ SCREW
Ⓒ SCREW

Fig. 3-13

3-4-4. Installation of the MODE SELECT SWITCH

1) Set the MODE SELECT SWITCH's gear, so that the Ⓒ mark is in the center of the Ⓒ hole as shown in Fig. 3-14.

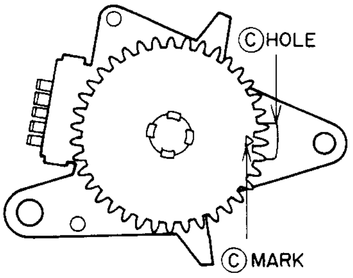


Fig. 3-14

2) Attach the MODE SELECT SWITCH to the LOADING DRIVE BLK and align the hollow of the gear's tooth (reverse side of the Ⓒ mark) with the Ⓒ groove of the CAM SLIDER GEAR as shown in Fig. 3-15.

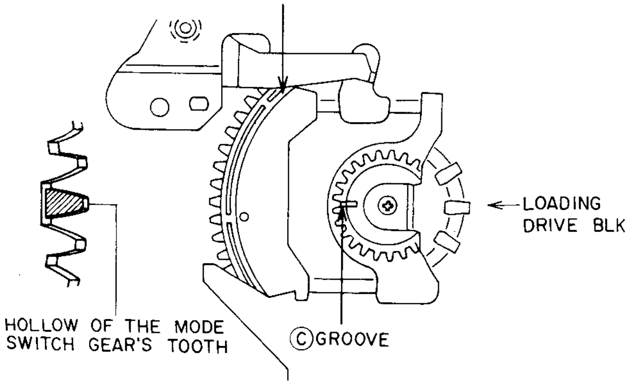

CAM SLIDER GEAR
LOADING DRIVE BLK
HOLLOW OF THE MODE SWITCH GEAR'S TOOTH
Ⓒ GROOVE

Fig. 3-15

3-4-5. Installation of the LOADING ARM BLK

1) While covering SENSOR (S) with your fingers, connect the AC power plug to the AC socket. The FRONT LOADING SLIDER will reach the "EJECT" position. Then disconnect the AC power plug from the AC socket before you release your fingers from SENSOR (S).
2) Install the LOADING ARM BLK in the reverse order of 3-1-2 (Removal of the LOADING ARM BLK). Position the EJECT GEAR and the JOINT GEAR as shown in Fig. 3-16.

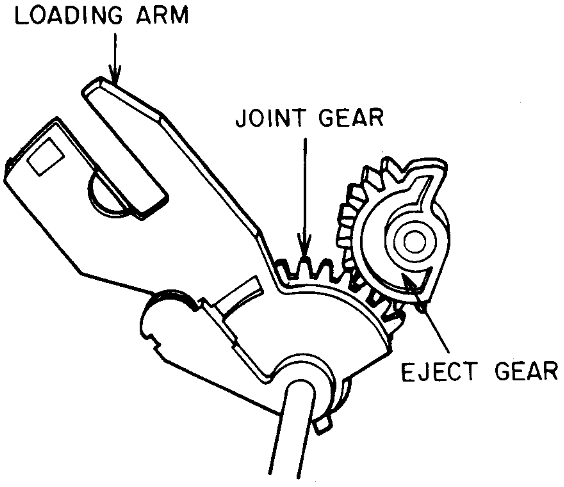


Fig. 3-16

3-4-6. Installation of the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE

1) Attach the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE in the reverse order of 3-1-1 (Removal of the CASSETTE LOAD BLK).
2) Insert a video cassette tape and confirm that the loading mechanism operates properly.

3-5. REPLACEMENT OF THE PINCH ROLLER PART

1) Remove the Ⓐ screw, then remove the PINCH ROLLER part, as shown in fig. 3-17
2) Set the pinch roller so that white plastic spacer side faces chassis when replacing. Then tighten the Ⓐ screw.

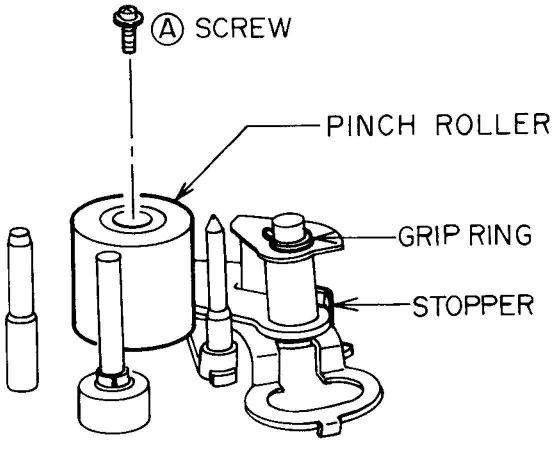


Fig. 3-17

3-6. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART (JFX-L only)

1) Remove the CASSETTE LOAD BLOCK & LOADING ARM BLK. (refer to 3-1, REMOVAL OF THE EJECTOR BLOCK).
2) Release the stopper of IDLER PART as shown in Fig. 3-18, then remove it.

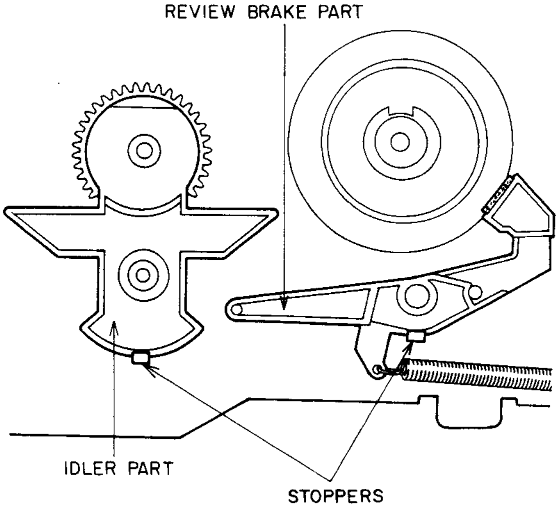


Fig. 3-18

3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
4) Reassemble the parts in the reverse order of steps 1) to 3).

3-7.REPLACEMENT OF THE IDLER PART (2) AND REVIEW BRAKE PART

(JFX ONLY)

1) Remove the CASSETTE LOAD BLK & LOADING ARM BLK. (Refer to 3-1, REMOVAL OF THE EJECTOR BLK.)
2) Release the stopper of the IDLER PART (2) as shown in Fig. 3-19, then remove it.

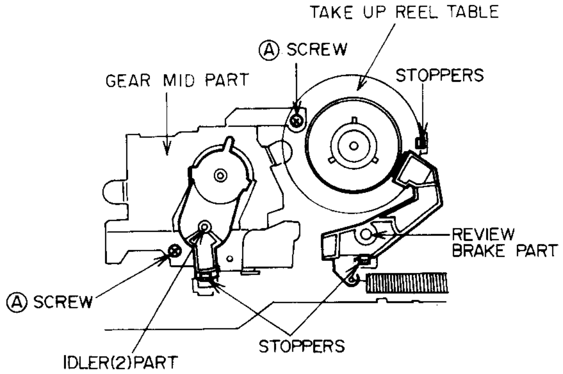

TAKE UP REEL TABLE
Ⓐ SCREW
GEAR MID PART
STOPPERS
REVIEW BRAKE PART
Ⓐ SCREW
STOPPERS
IDLER(2)PART

Fig. 3-19

3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
4) Reassemble these parts in the reverse order of 1) to 3).

3-8.REPLACEMENT OF THE GEAR MID PART (JFX ONLY)

1) Remove the REVIEW BRAKE PART and IDLER (2) PART with referring to the step 3-7.
2) Release the stopper of the TAKE UP REEL TABLE as shown in Fig. 3-20, then remove it.
3) Remove the two Ⓐ screws then replace the GEAR MID PART as shown in Fig. 3-20.
4) Reassemble in the reverse order.

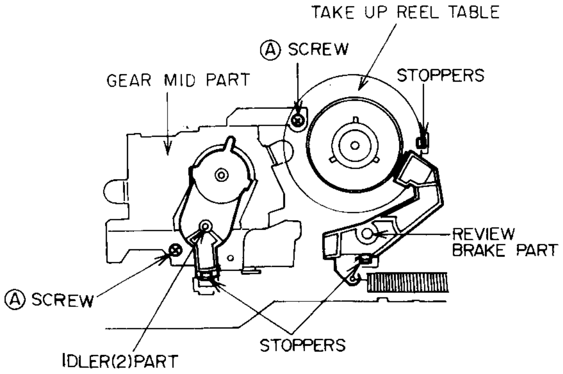

TAKE UP REEL TABLE
Ⓐ SCREW
GEAR MID PART
STOPPERS
REVIEW BRAKE PART
Ⓐ SCREW
STOPPERS
IDLER(2)PART

Fig. 3-20

3-9. REPLACEMENT OF THE UPPER DRUM

3-9-1. Removal of the UPPER DRUM

1) Remove one of the PRE AMP retaining screw and remove the EARTH BRUSH.
2) Unsolder the eight relay leads and remove the two upper drum fixing screws as shown in Fig. 3-21.
3) Gently lift and remove the UPPER DRUM.

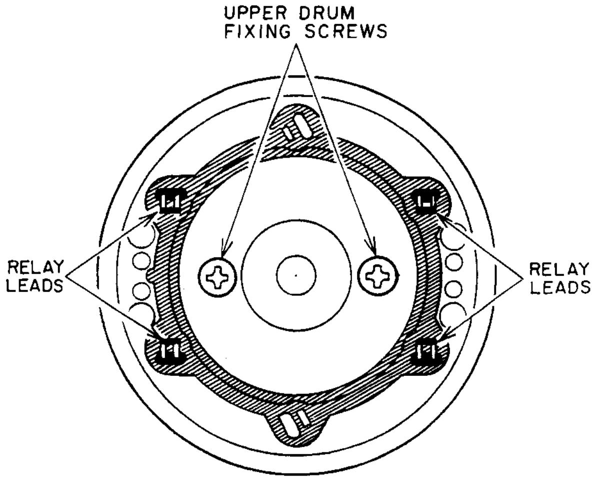

UPPER DRUM FIXING SCREWS
RELAY LEADS
RELAY LEADS

Fig. 3-21

3-9-2. Installation of the UPPER DRUM

1) Attach the UPPER DRUM to the LOWER DRUM ROTOR, so that the upper drum convex Ⓐ and lower drum rotor's GREEN PCB side line up, as shown in Fig. 3-22.

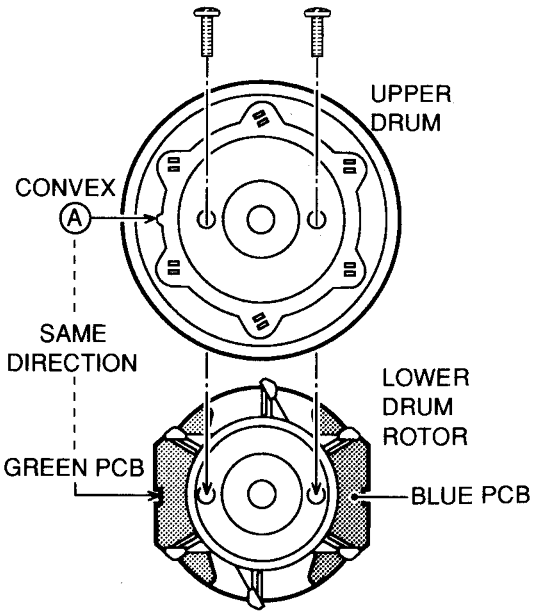

UPPER DRUM
CONVEX
Ⓐ
SAME DIRECTION
LOWER DRUM ROTOR
GREEN PCB
BLUE PCB

Fig. 3-22

NOTE: Because height precision is required for proper performance, and because head tips are fragile, the following points should be noted when replacing the UPPER DRUM BLOCK.

(a) Do not loosen the set screw on the collar preload.
(b) Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
(c) If the UPPER DRUM can not be inserted on to the shaft easily during installation, clean the hole in the UPPER DRUM with alcohol and put a little oil on the shaft.
(d) Make sure that the upper drum fixing screw holes, on the rotary transformer part, and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
(e) Tighten the two upper drum fixing screws alternately and gradually.

3-9-3. After replacement

After replacement, the following adjustments are necessary for the proper performance.

1) Control head Phase adjustment (IV. MECHANICAL ADJUSTMENT 4-3-3.)
2) PB switching point adjustment. (V. ELECTRICAL ADJUSTMENT Step 1)
3) Video head REC current adjustment. (V. ELECTRICAL ADJUSTMENT Step 7)
4) ENV.DET (I-HQ) adjustment. (V.ELECTRICAL ADJUSTMENT Step 10)

3-10. DRUM MOTOR PC BOARD REPLACEMENT

1) Remove the two Ⓐ screws on the ROTARY PLATE and then remove it.
Then disconnect the connector on the DRUM MOTOR PCB as shown.

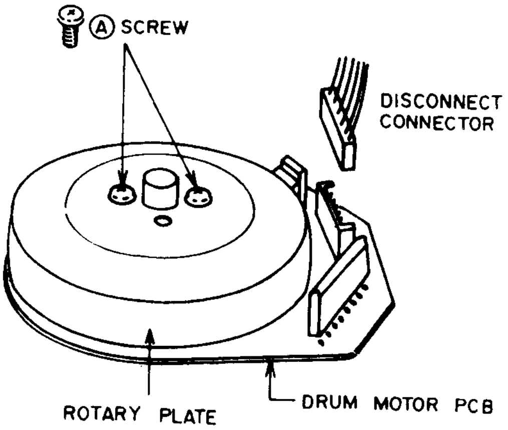


Fig. 3-23

2) Remove the three Ⓑ screws which retain the DRUM MOTOR PCB and replace it.

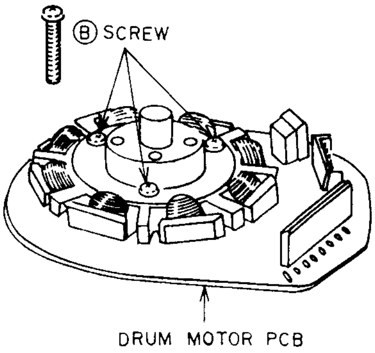


Fig. 3-24

3) Attach the ROTARY PLATE to the collar preload so that the rotary plate Ⓒ hole and collar preload Ⓓ hole line up.

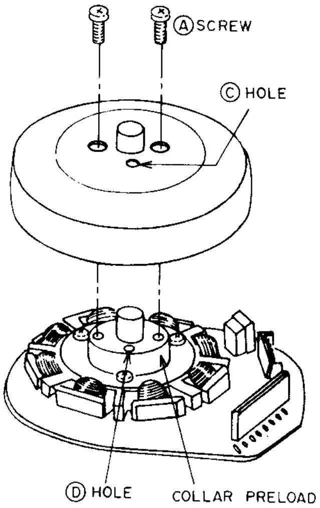


Fig. 3-25

3-11. REMOVAL OF THE MECHANISM BLOCK

3-11-1. Removal of the PRE AMP PC Board

1) Remove the Ⓐ screw and remove the EARTH BRUSH as shown in Fig. 3-26.

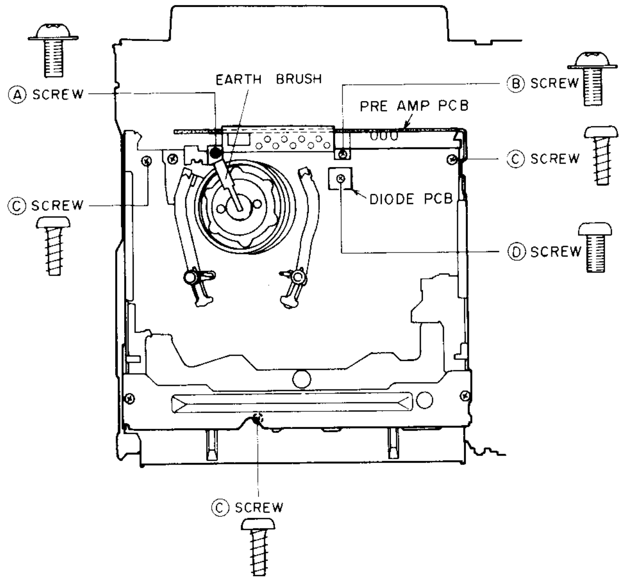


Fig. 3-26

2) Remove the Ⓓ screw on the DIODE PCB and remove the DIODE PCB.
3) Remove the Ⓑ screw then pull up the PRE AMP PCB carafully.

3-11-2. Removal of the MECHANISM BLK (MECHA. FRAME)

1) Disconnect the connectors P301, P302, P303 on the MAIN (A) PCB and P1 on the A/C HEAD PCB.
2) Disconnect the connector on the FULL TRACK ERASE HEAD.
3) Remove the three Ⓒ screws from the MECHA. FRAME as shown in Fig. 3-26.
4) Hold the rear side of the MECHA. FRAME then remove it by pulling it up backwards.
5) Reassemble in the reverse order for installation.

IV. MECHANICAL ADJUSTMENT

4-1.BACK TENSION ADJUSTMENT

1) Prepare a video cassette tape which you no longer needed. Remove both tape reels and the tape protection cover from the cassette tape. Then cover the video cassette's left and right side detection holes with black adhesive tape.
2) Play back the tapeless cassette which you prepared.
3) Confirm the distance between Ⓐ groove on the TENSION ARM and the Ⓐ mark on the MECHA. CHASSIS so that the distance should be within the value shown in Fig. 4-1.
4) If the result is not satisfactory, eject the tape and adjust the TENSION ADJUST repeatedly until the result is satisfactory.

(JFX ONLY) (JFX-L ONLY)

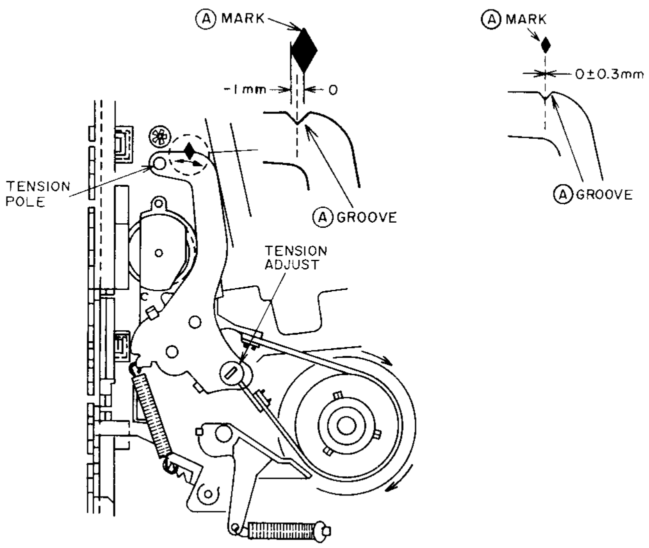


Fig. 4-1

4-2.TAPE TRANSPORT ADJUSTMENTS

NOTE: The following adjustments are required only when an irregularity is found, since these adjustment are precisely set at the factory.

4-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

1) Play back a recorded tape which is no longer needed.
2) Turn the Ⓐ screw on the A/C HEAD BLK, until the edge of the tape barely touches the lower part of the TAKE UP TAPE GUIDE, without any curl or wrinkle.
3) Once the Ⓐ screw is adjusted, A/C HEAD height and azimuth adjustment is required. (Refer to 4-3. A/C HEAD POSITION ADJUSTMENT.)

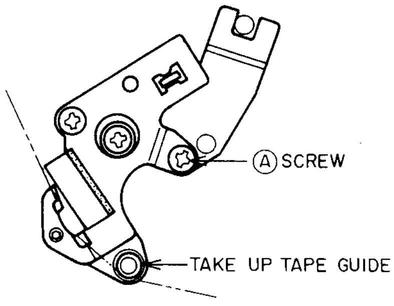


Fig. 4-2

(TAKE-UP TAPE GUIDE)

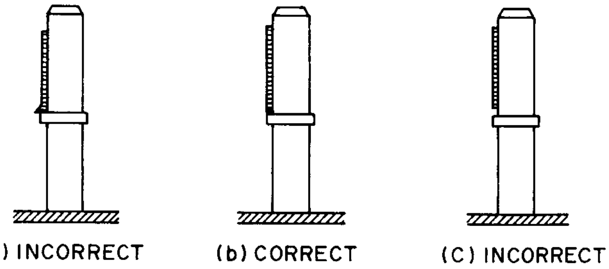


Fig. 4-3

4-2-2. Confirmation of tape curl on the SUPPLY TAPE GUIDE

Confirm that the edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE, without any curl or wrinkle as shown in Fig. 4-4.

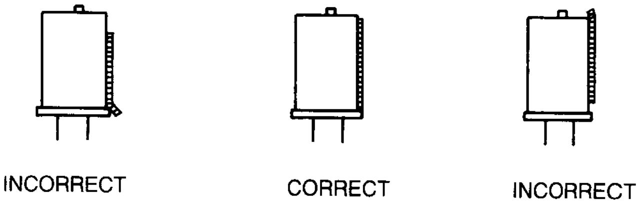


Fig. 4-4

4-2-3. REVIEW ARM height adjustment

1) Play back the beginning part of an E-240 tape and set the unit to the REVIEW mode by pressing the REW button. (Remove the tape protection cover to make the adjustment easier.)

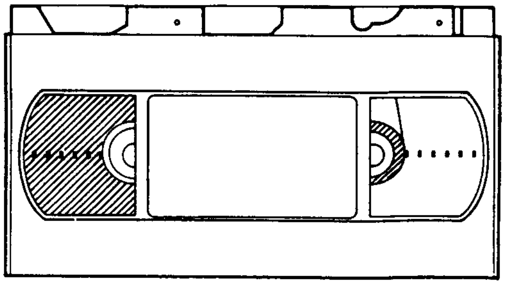


Fig. 4-5

2) Turn the REVIEW ARM height Ⓐ nut so that the edge of the tape barely touches the lower part of the TAKE-UP TAPE GUIDE, without any curl or wrinkle between the TAKE-UP TAPE GUIDE and the CAPSTAN SHAFT as shown in Fig. 4-6 to Fig. 4-8.

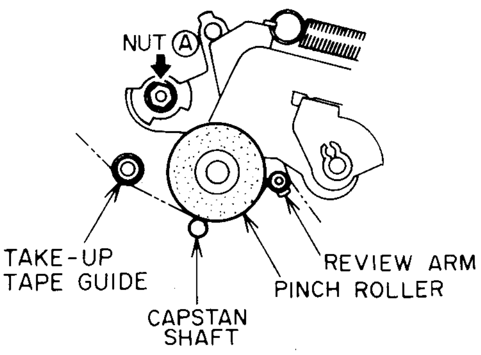

NUT Ⓐ
TAKE-UP TAPE GUIDE
CAPSTAN SHAFT
REVIEW ARM
PINCH ROLLER

Fig. 4-6

(TAKE-UP TAPE GUIDE)

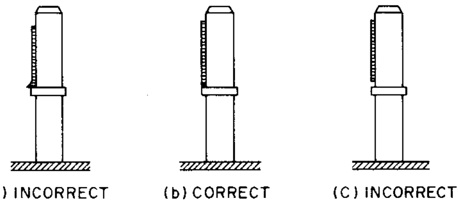

(a) INCORRECT
(b) CORRECT
(C) INCORRECT

Fig. 4-7

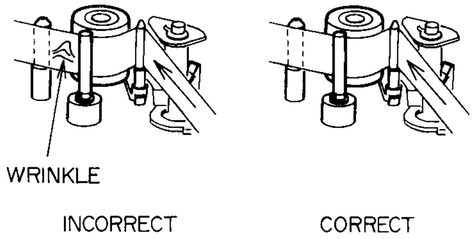

WRINKLE
INCORRECT
CORRECT

Fig. 4-8

3) Play back the beginning part of an E-240 tape and this time set the unit to the CUE mode by pressing the F.FWD button.

4) Confirm there is no curl or wrinkle near the REVIEW ARM's guide.
If curl or wrinkle of the tape occurs, slightly turn the Ⓐ nut (Shown in Fig. 4-6) until it disappears.

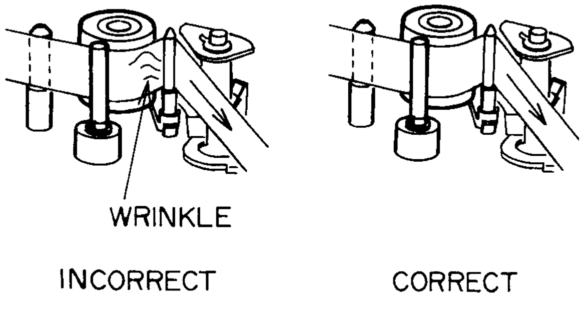

WRINKLE
INCORRECT
CORRECT

Fig. 4-9

5) Set the unit to the REVIEW mode again. Then confirm that there is no curl or wrinkle near the TAKE-UP TAPE GUIDE. (A small gap may appear after this adjustment, but this is allowable.)

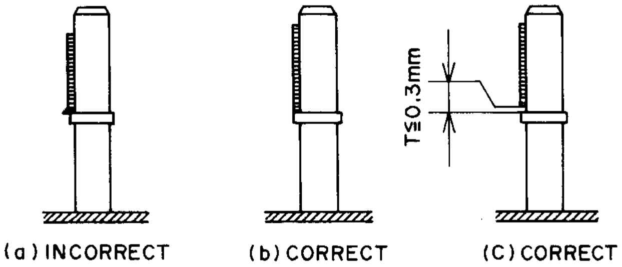

T≦0.3mm
(a) INCORRECT
(b) CORRECT
(C) CORRECT

Fig. 4-10

NOTE:
1. If the results are not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3. Because an E-240 tape can be damaged easily, due of its thinness, a pre-adjustment with an E-180 tape is recommended.

4-2-4. LOADING LEADER height adjustments

1) Slightly loosen the set screw at the lower part of the LOADING LEADERs (L), (R) so that the LOADING LEADER can be adjusted with reasonable tightness. (Refer to Fig. 4-11.)

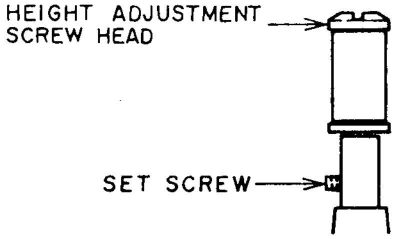

HEIGHT ADJUSTMENT SCREW HEAD
SET SCREW

Fig. 4-11

2) Play back the reference tape TF-530RFS (AT-751775).
3) Connect an oscilloscope's CH-1 to TR510 emitter (ENVE) on the MAIN (A) PCB and CH-2 to TP2 (V-SWP) on the PRE AMP PCB for triggering.
4) Turn the LOADING LEADER heads with a flat head (**—**) screwdriver to obtain a flat RF envelope as the ideal envelope, as shown in Fig. 4-12.
5) After adjustment is completed, tighten the loading leader set screws.

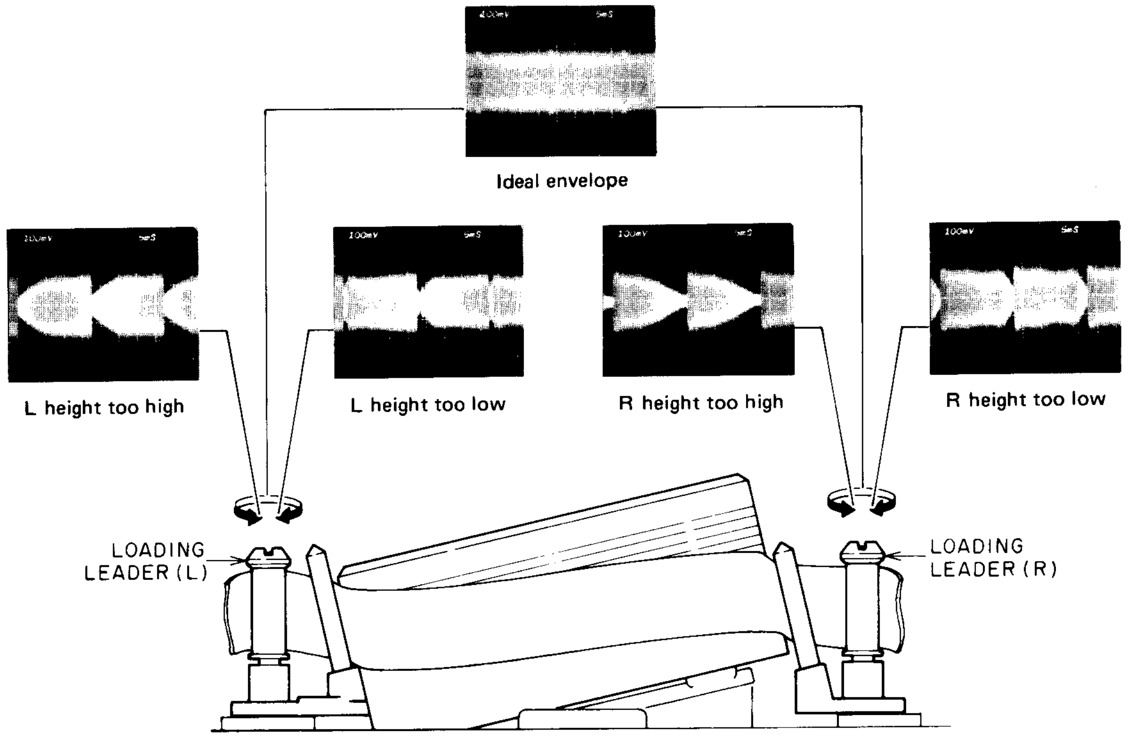

Ideal envelope
L height too high
L height too low
R height too high
R height too low
LOADING LEADER (L)
LOADING LEADER (R)

Fig. 4-12

4-3.A/C HEAD POSITION ADJUSTMENT

4-3-1. Azimuth adjustment

1) Connect an AC voltmeter or an oscilloscope to the AUDIO OUT terminal on the rear panel.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Adjust the Ⓑ screw to obtain the maximum audio output.

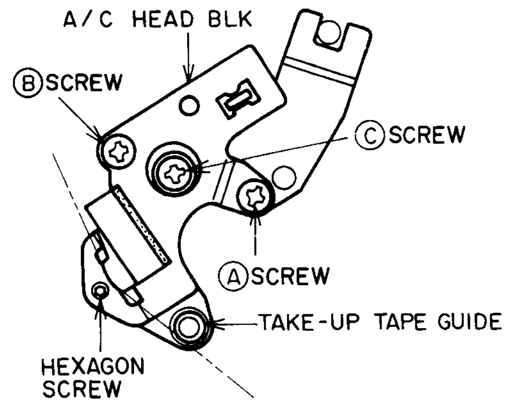
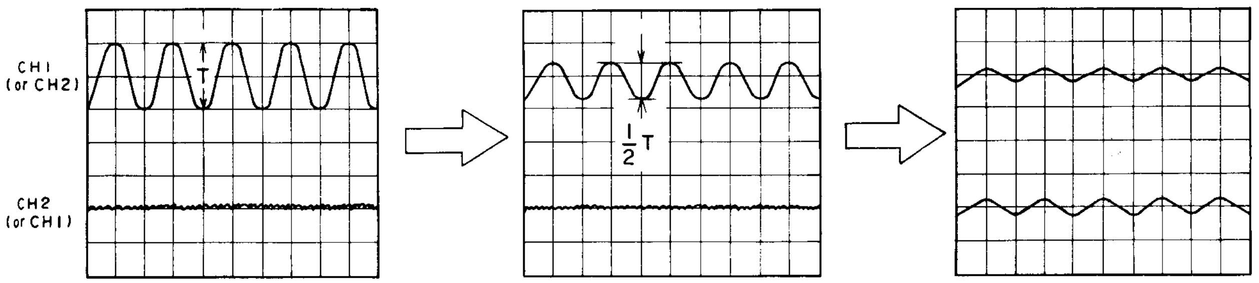

A/C HEAD BLK
ⒷSCREW
ⒸSCREW
ⒶSCREW
TAKE-UP TAPE GUIDE
HEXAGON SCREW

Fig. 4-13

4-3-2. Height adjustment

1) Play back test tape TF-526HH (AT-751788).
2) Connect an oscilloscope's CH-1 to the AUDIO OUT terminal on the rear panel and CH-2 to TP301 (CTL OUT) on the MAIN (A) PCB.
3) Turn the hexagon screw to obtain 1/2 of the output level of either CH-1 or CH-2, whichever has an output signal as shown in Fig. 4-14.
   Then set both of the oscilloscope's channels to 100 mV/div and finely adjust the hexagon screw until both signals of CH-1 and CH-2 are nearly the same level.
4) Slightly turn the Ⓐ screw until the tape edge barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl or wrinkle as shown in Fig. 4-3.
5) Adjust the head azimuth again. (Turning the hexagon screw, or Ⓐ screw, will cause head azimuth mis-alignment. Refer to 4-3-1. Azimuth adjustment.)
6) Confirm that both signals of CH-1 and CH-2 are nearly the same level (confirm that neither of the CH-1 or CH-2 output levels exceed 100 mVp-p). If the result is not satisfactory, repeat steps 3) to 5).



(a) CH1 = T　(b) CH1 = $\frac{1}{2}$T　(c) CH1 = CH2

Fig. 4-14

4-3-3. Phase adjustment

1) Connect an oscilloscope's CH-1 to the TR510 emitter (ENVE) on the MAIN (A) PCB and CH-2 to TP2 (V-SWP) on the PRE AMP PCB for triggering.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Press the "<" or ">" cursor button on the remote control until the "X" mark can be seen in the center position of the tracking range on the TV screen as shown in Fig. 4-15.
4) Loosen the Ⓒ screw slightly so that the A/C HEAD PLATE can be moved with reasonable tightness.
5) Insert a sharp, flat head (—) screwdriver into the A/C HEAD BASE and Ⓐ hole as shown in Fig. 4-17.
6) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig. 4-17 to obtain the maximum RF output, then tighten the Ⓒ screw.

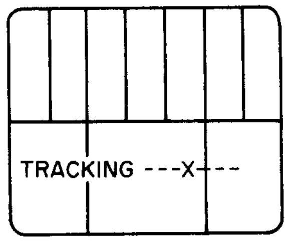


Fig. 4-15

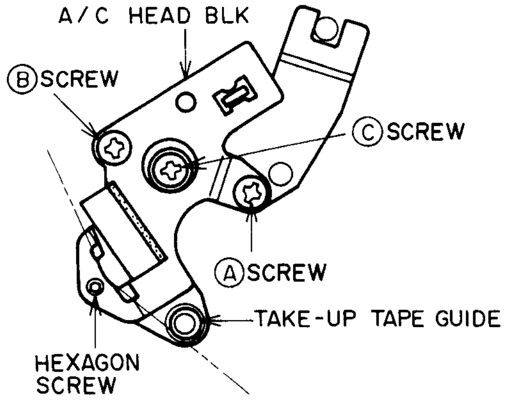

A/C HEAD BLK
ⒷSCREW
ⒸSCREW
ⒶSCREW
TAKE-UP TAPE GUIDE
HEXAGON SCREW

Fig. 4-16

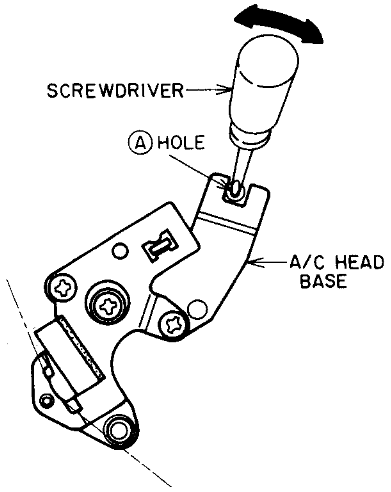

SCREWDRIVER
ⒶHOLE
A/C HEAD BASE

Fig. 4-17

V. ELECTRIAL ADJUSTMENT

Precautionary items prior to adjustments
1. The colour bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

The following test tapes are required.

Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360
TF-553AT	AT-751785

STEP **ADJUSTMENT ITEM**
1. MODE and INPUT SIGNAL/TEST TAPE
2. TEST POINT and ADJ part
3. REMARKS (•) & RESULT (∗)

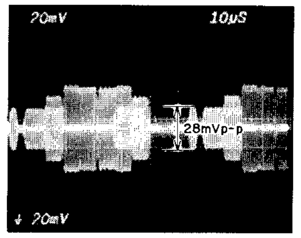
ADJ. part →
Test point - - →

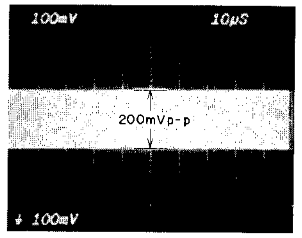
6 VIDEO REC CURRENT (LP MODE)

1. "REC" (LP MODE), PAL colour bar signal
2. P2 (REC.CURR) ① pin, ② pin & VR1 (REC-CHROMA), VR2 (REC-Y)
3. • Connect an oscilloscope's CH-1 to P2 (REC.CURR) ① pin and CH-2 to ② pin.
   - Set the oscilloscope's display mode to "ADD" mode and CH-2 polarity to "INVERTED". (Make sure to set the oscilloscope's "volt / div" SW position where the waveform is not distorted and CH-2 position should be the same as CH-1.)
   - Turn the VR2 (REC-Y) fully, counterclockwise.

   ∗ Adjust VR1 (REC-CHROMA) so that the chroma REC current becomes 28 mVp-p at the burst signal area.

   ∗ Disconnect the input signal, then adjust VR2 (REC-Y) so that the Y REC current becomes 200 mVp-p.

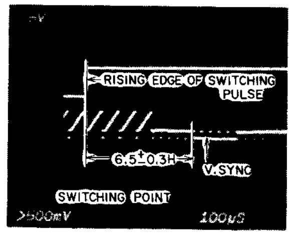




1 PB SWITCHING POINT

1. "PB", test tape TF-530RFS
2. TP2 (SWP), VIDEO OUT & VR301 (SW.POINT)
3. • Connect an oscilloscope's CH-1 to TP2 (SWP) for triggering and CH-2 to VIDEO OUT.

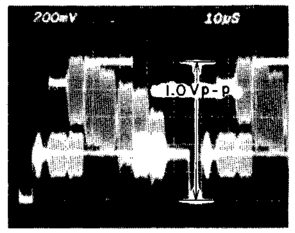
   ∗ Adjust VR301 so that the switching point is positioned 6.5 H from the V-SYNC left edge as shown.



7 VIDEO PB LEVEL

1. "REC" → "PB", PAL colour bar signal
2. VIDEO OUT & VR404 (PB LEVEL)
3. • Connect an oscilloscope to VIDEO OUT
   - Make a recording on the tape, then play it back

   ∗ Adjust VR404 so that the PB level becomes 1.0 Vp-p

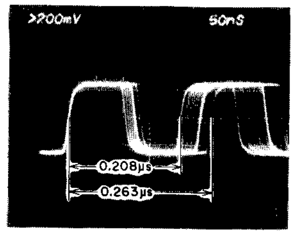


5 CARRIER SET & DEVIATION

1. "REC", PAL colour bar signal
2. TP401 (REC.Y) & VR402 (CARRIER), VR403 (DEVIATION)
3. • Connect an oscilloscope to TP401 (REC.Y)

   ∗ VR402 (CARRIER) : 0.263 µs (3.8 MHz)

   ∗ VR403 (DEVIATION): 0.208 µs (4.8 MHz)



3 AUDIO REC BIAS

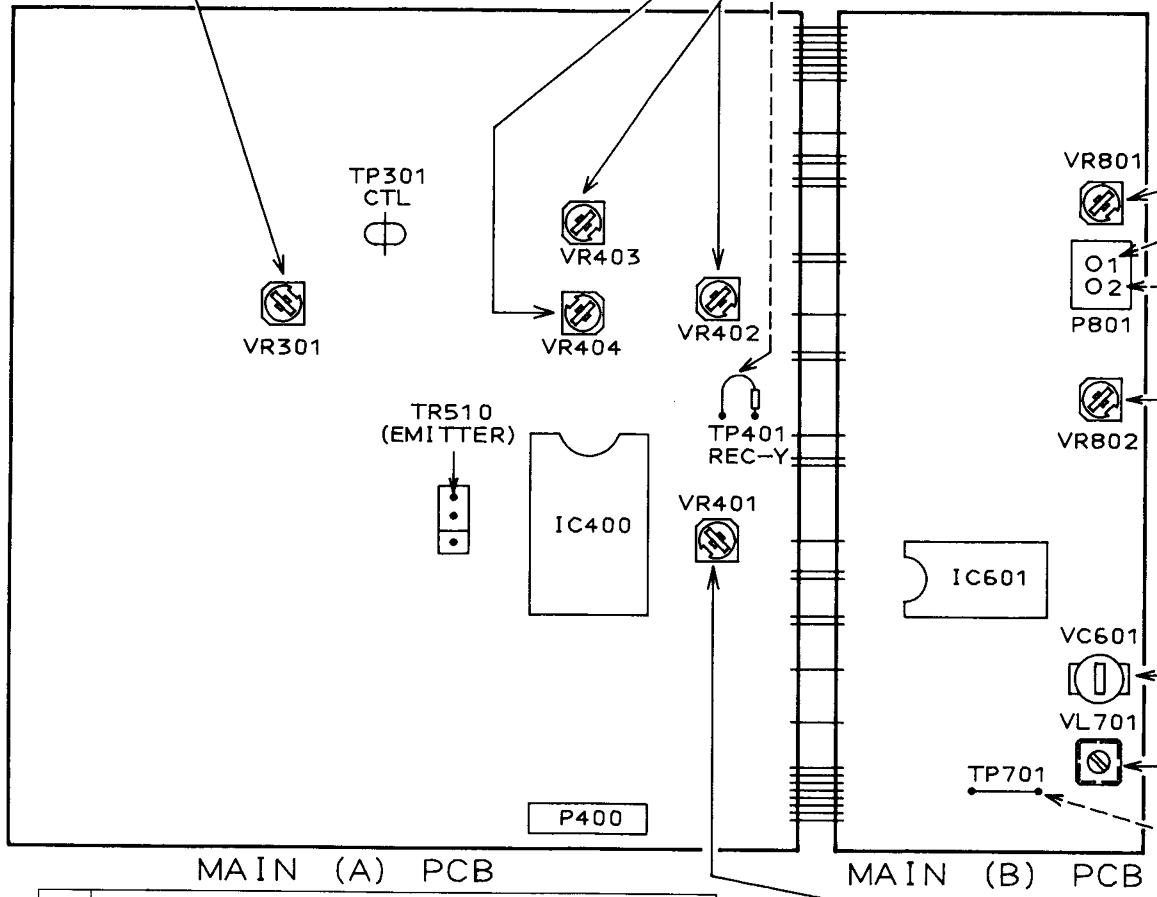
1. "REC", No signal input
2. P801 ① pin, ② pin & VR801
3. • Connect an AC voltmeter to P806 ① pin (GND side) and ② pin.
   (Never connect the AC voltmeter's GND to the VCR's ground.)

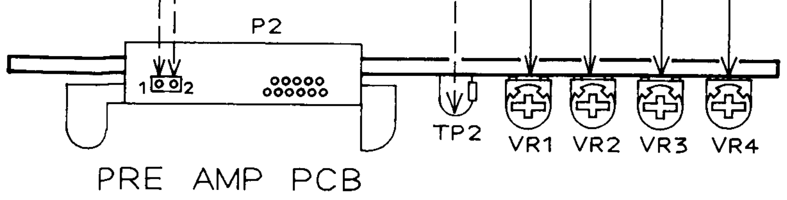
   ∗ Adjust VR801 so that the reading on the AC voltmeter becomes 2.4 mV

2 AUDIO PB LEVEL

1. "PB", test tape TF-527BL
2. AUDIO OUT & VR802
3. • Connect AC voltmeter to AUDIO OUT

   ∗ -5 dBs

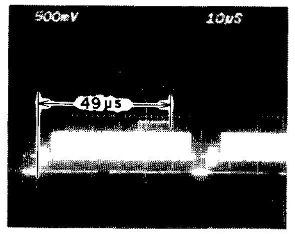


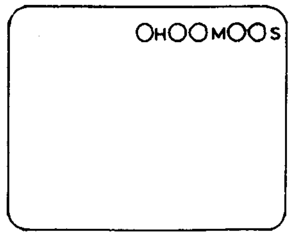


8 CHARACTER POSITION

1. "E-E" (STOP mode), No signal input
2. VIDEO OUT, TV screen & VC601 (IMS)
3. • Press the "DISPLAY" button once on the remote control to display the elapsed tape counter.
   - Connect an oscilloscope to VIDEO OUT

   ∗ Adjust VC601 (IMS) so that the right end of the IMS signal becomes 49 us from the H-SYNC as shown.



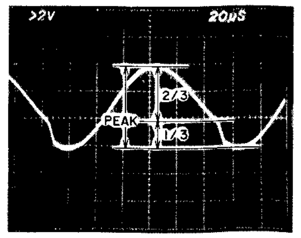


ON THE TV SCREEN

9 P/S AUTO SENSITIVITY (EM/EDG/EOG-V ONLY)

1. "E-E"(STOP mode),SECAM colour bar signal
2. TP701 (P/S SENS), VL701 (P/S SENS)
3. • Connect an oscilloscope to TP701 (P/S SENS)

   ∗ Adjust the VL701 so that the distorted point of the waveform becomes 1/3 from the bottom, as shown.



10 ENVELOPE DETECT (I-HQ)

(This adjustment should be performed in the "TEST" mode.)
To set the VCR to the "TEST MODE", press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord.
The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the RESET button on the front panel.

1. "REC"→"PB", PAL colour bar signal
2. FL display & VR3, VR4
3. • Record the PAL colour bar signal on the test tape TF-553AT and then play it back.
   - Observe the number which is displayed on the minute part of the FL display.

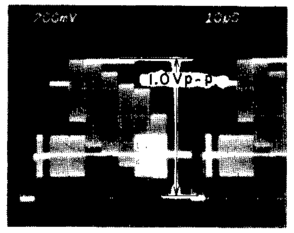
   ∗ Adjust the VR3 so that the number displayed on the FL display becomes "8D". (SP MODE)

   ∗ Adjust the VR4 so that the number displayed on the FL display becomes "8D". (LP MODE)

4 VIDEO E-E LEVEL

1. "E-E" (STOP mode), PAL colour bar signal
2. VIDEO OUT & VR401 (E-E LEVEL)
3. • Connect an oscilloscope to VIDEO OUT.

   ∗ 1.0 Vp-p



VI. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref.No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

The available PC Board Blocks are listed separately.

b) PC Board

6. MAIN PC BOARD

Ref.No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A)
[S] : SAA (Australia)
[B] : BEAB (England)
[U] : U/T (Universal Area)
[C] : CSA (Canada)
[E] : CEE (Europe)
[V] : VDE (Germany)
[J] : JPN (Japan)
[Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

6-1. MODEL VS-F440EA/EDI/EM, F441EA, F490EM

1. RECOMMENDED SPARE PARTS

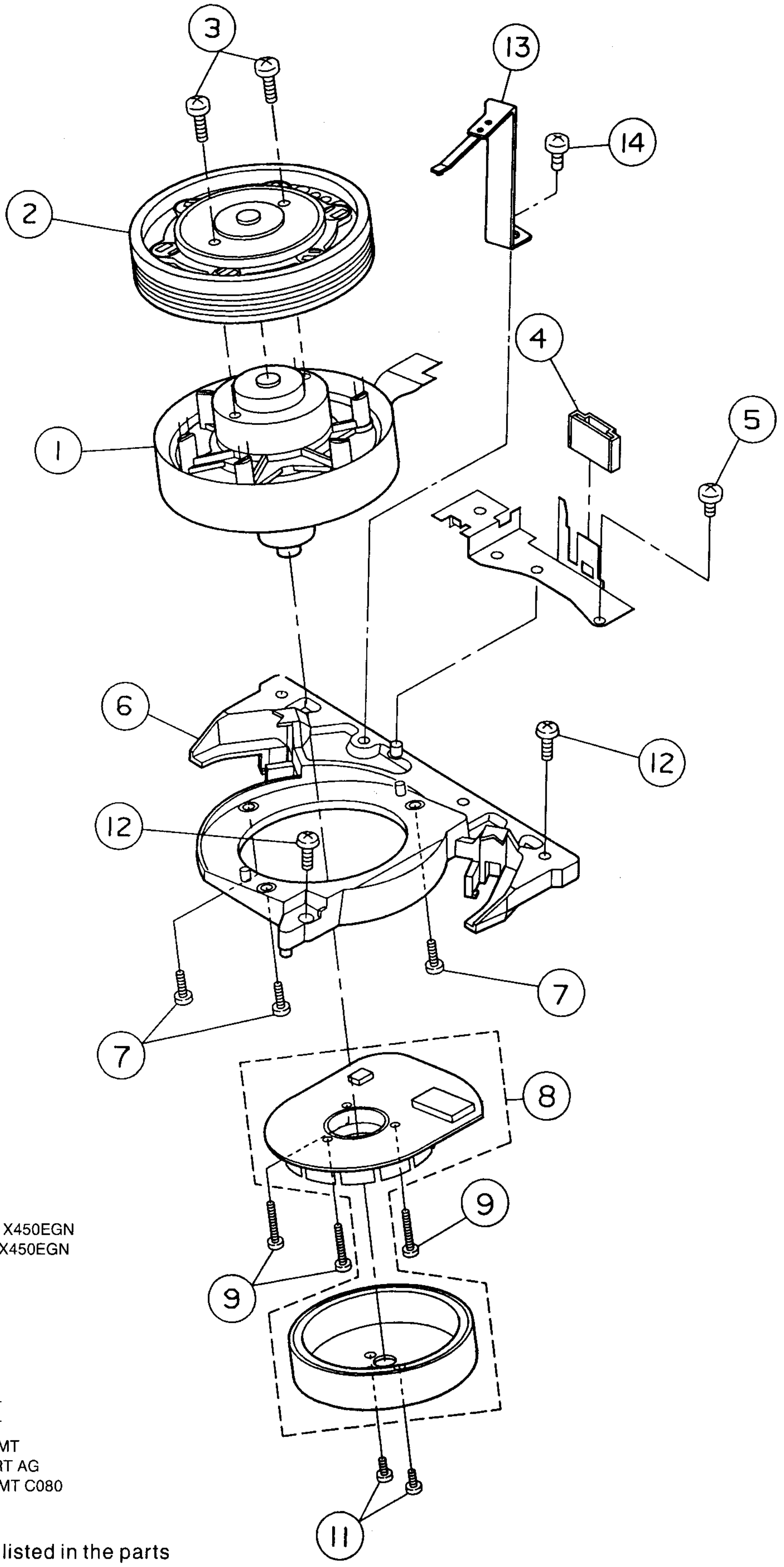
We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	AV-B1038A010A	REMOCON BLK RC-V250E [EXCEPT F490EM]
2	AV-B1043A010E	REMOCON BLK RC-V452E [F490EM]
3	BB-V1130A020H	MECHA DECK BLK F260EA
4	BB-V1130A020C	MECHA DECK BLK F410EK
5	BL-V1102A140A	ARM LOADING BLK 425EA
6	BL-387458J2	CAPSTAN BRAKE PART
7	BL-V1123A050A	TENSION ARM BLK F600EA
8	BL-V1102A050A	TENSION ARM BLK 425EA
9	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
10	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
11	BM-387503J	MOTOR PART [LOADING MOTOR]
12	*BT-410487J	TRANS POW V1130 EA [EM]
13	*BT-410488J	TRANS POW V1130 EM [EM]
14	*BT-410489J	TRANS POW V1130 ES [EDI]
15	BV-V1102A150A	CASSETTE LOAD BLK 425EA
16	BV-V1102A070A	LEADER S BLK 425EA
17	BV-V1102A080A	LEADER T BLK 425EA
18	BV-V1123A410B	LOWER DRUM BLK X450EGN
19	BV-404007J	RF CONVERTER MDLK6E766A EDI [EDI]
20	BV-387610J	RF CONVERTER YAA21-0453 EA [EA]
21	BV-387611J	RF CONVERTER YAA21-0454 EV [EM]
22	BV-V1123A420B	UPPER DRUM BLK X450EGN
23	BV-403236J1	VIF UNIT KX EA [EA]
24	BV-403963J	VIF UNIT KX EDI [EDI]
25	BV-403239J1	VIF UNIT KX EM [EM]
26	EA-387496J	PC (#) SENSOR
27	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
28	EC-408376J	C EC V CUT KMG 102M 50.0DC
29	EC-408377J	C EC V CUT KMG 222M 50.0DC
30	EC-408426J	C EC V F05 LXF8 121M 50.0DC
31	EC-403880J	C EC V T05 LXF8 221M 25.0DC
32	EC-403878J	C EC V T05 LXF8 271M 16.0DC
33	EC-404197J	C EC V T05 SXE8 330M 80.0DC
34	ED-390011J	D LED GL451 INFRARED [D1]
35	ED-390012J	D LED GL4800 INFRARED [D2]
36	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
37	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
38	*ED-379298	D SILICON DBA20B 100/2.0A
39	ED-366443	D SILICON H MA700FA5 F10
40	ED-307572	D SILICON H 1SS131
41	ED-401046J	D SILICON RL104F-E T26 400/1A
42	ED-511907	D SILICON 1N4002 100/1.0A
43	ED-391005J	D ZENER H HZS12B1
44	ED-408807J	D ZENER H HZS12C3
45	ED-397233J	D ZENER H HZS5C3
46	ED-387919J	D ZENER H HZS6A1L
47	ED-405373J	D ZENER H MTZJ16A T26
48	ED-405247J	D ZENER H MTZJ2.7A T26 [F490EM]
49	ED-403267J	D ZENER H MTZJ3.3B T26
50	ED-405524J	D ZENER H MTZJ36A T26
51	ED-403724J	D ZENER H UTZJ10A
52	*ED-404029J	D ZENER H UTZJ10B T26
53	ED-405264J	D ZENER H UTZJ10C
54	ED-404031J	D ZENER H UTZJ11B T26
55	ED-403948J	D ZENER H UTZJ16C T26
56	ED-403947J	D ZENER H UTZJ22C T26
57	ED-405265J	D ZENER H UTZJ36C
58	ED-404032J	D ZENER H UTZJ39A
59	ED-403732J	D ZENER H UTZJ5.6A
60	ED-403729J	D ZENER H UTZJ5.6C
61	ED-403278J	D ZENER H UTZJ7.5B
62	ED-404086J	D ZENER H UTZJ7.5C
63	ED-403731J	D ZENER H UTZJ8.2C
64	ED-403279J	D ZENER H UTZJ9.1B
65	EE-408471J	TV TUNER ENV-77890F2 SK [EDI]
66	EE-408417J	TV TUNER VTSS6AZV EA [EA]
67	EE-405638J	TV TUNER VTSS6CZ EM [EM]
68	EH-394838J	DL ADL-FN1344Q [EM]
69	EH-390730J	DL EFD-JF124A13J
70	EH-368816	FILTER CE SAF38.0MZA70Z [EDI]
71	EH-730625J	FILTER CE SAF38.9MZW70Z [EM]
72	EH-780128	FILTER CE SFE 6.5MB [EDI]
73	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ
74	EH-373920	FILTER CE SFE5.5MB
75	EH-381309J	FILTER CE SFS6.0MD 6.000MHZ [EDI]
76	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ [EDI]
77	EH-729986J	FILTER CE TPS5.5MB2 [EM]
78	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EA]
79	EH-373919	FILTER CE TPS6.0MB [EDI]
80	EH-376338	FILTER CE TPS6.5MB [EDI]
81	EH-714626	FILTER SAW SAF36.9MZ70Z [EA]
82	EI-373981J1	IC BA10393N
83	EI-373980	IC BA15218N
84	EI-386468J	IC BA3308 [F490EM]
85	*EI-381575J	IC BA6121
86	EI-353421	IC BA6229
87	EI-366892	IC BA7025L [EM]
88	EI-387586J	IC BA7244BS
89	EI-388360J	IC BA7765AS
90	EI-356457	IC BU4013B
91	EI-360586	IC LA6358S [F490EM]
92	EI-403234J1	IC LA7391A
93	EI-394856J	IC LC8992
94	EI-389622J	IC L5631
95	EI-403469J	IC MM1068XS
96	EI-408850J	IC MN675201 XDJ JFXSYP1 [F490EM]
97	EI-408849J	IC MN675201 XDL JFLSYP1 [EXCEPT F490EM]
98	EI-368809	IC M51496P
99	EI-400756J	IC NJM4558L-B
100	EI-373955	IC S-8053ALR
101	EI-408393J	IC ST24C01B1
102	EI-200573	IC TC4053BP [EM]
103	EI-310036	IC TC4066BP
104	EI-405722J	IC UPD6450CX-515
105	EI-408391J1	IC UPD75217CW-146 JBXOPP2
106	EI-408397J	IC UPD75217CW-147 JFXOPP1

Ref.No.	Part No.	Description
107	EI-394467J	IC X24C01P
108	EI-403467J	OSC CE CSB500F40 15.680KHZ
109	EI-368829	OSC CE CSB512P
110	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
111	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
112	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
113	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
114	EI-381632J	OSC X'TAL 86686 4.433619MHZ
115	EM-401077J	IND FL FV496G CHARACTER
116	EM-403367J	IND FL FV506G CHARACTER
117	EO-408381J	COIL FIX 2 C-5344-40 560K
118	EO-388362J	COIL OSC 1 V1102 [EXCEPT F490EM]
119	EO-388363J	COIL OSC 1 V1105-1 [F490EM]
120	EO-388349J	COIL OSC 1 V1105-2 [F490EM]
121	EO-366893	COIL VARI 1 21D6 8.20MH [EM]
122	*EQ-400153J	RELAY POW AG2013 1TR 12V
123	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
124	ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
125	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
126	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
127	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
128	ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
129	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
130	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
131	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
132	ER-393768J	R OMF H S15 FS 2W 270J
133	ES-373099	SW LEAF MTS10110MPC1
134	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
135	ES-403377J	SW ROTARY ENCODER SRGPHJ
136	ES-408404J	SW TACT EVQ 235 07K T05 [EDI/EM,RESET]
137	ES-408405J	SW TACT EVQ 235 09K T05 [F440EA,RESET]
138	ES-349474	SW TACT SKHHAM004A
139	ET-381637J2	DETECTOR GP1U521X
140	ET-403420J	DETECTOR SG-105LF [PH1][PH2]
141	ET-713614	TR CHIP 2SA1235 E,F
142	ET-725820J	TR CHIP 2SC2735J
143	ET-356336	TR DTA114ES
144	ET-354415	TR DTA144ES
145	ET-373985	TR DTA144TS
146	ET-353897	TR DTC114ES
147	ET-360399	TR DTC114TS
148	ET-354364	TR DTC143TS
149	ET-354414	TR DTC144ES
150	ET-361490	TR PHOTO PN268 [TR1]
151	ET-390010J	TR PHOTO PT4800 [TR2]
152	ET-390009J	TR PHOTO PT493F [TR4]
153	ET-364040	TR UN421D
154	ET-353899	TR 2SA1317 S,T,U
155	ET-389803J	TR 2SA933S R,S
156	*ET-366365	TR 2SB1185 E,F
157	ET-388338J	TR 2SB1425 S,E
158	ET-356817	TR 2SB891 Q,R
159	ET-400218J	TR 2SC1740S R,S
160	ET-375777	TR 2SC2926S P,Q
161	ET-397160J	TR 2SC3330 R,S,T,U,V
162	*ET-404195J	TR 2SC4486 S,T T05
163	ET-366168	TR 2SD1292 Q,R
164	*ET-381175J	TR 2SD1856
165	ET-405622J	TR 2SD2061 E,F
166	ET-370819	TR.CHIP 2SC3052
167	EX-405691J	THERMISTOR NTH5D332KA
168	HE-390013J	HEAD E HVFME0020A
169	HR-405340J	HEAD COMBO HVMZA1121A
170	MB-387289J	BELT CAPSTAN
171	MB-407117J	BELT CAPSTAN (3)
172	MI-387294J	IDLER PART
173	MI-404552J	IDLER (2) PART
174	ML-391745J3	ARM DAMPER
175	ML-387350J1	ARM LID OPENER
176	ML-387423J	ARM LOADING BRAKE
177	ML-387277J3	ARM REVIEW PART
178	ML-387402J1	LEVER TRIGGER
179	ML-387316J	MAIN BRAKE (S) PART
180	ML-387318J	MAIN BRAKE (T) PART
181	ML-387321J	REVIEW BRAKE PART
182	ML-407119J	REVIEW BRAKE (3) PART
183	ML-387324J1	SLIDER BRAKE PART
184	ML-404567J1	SLIDER BRAKE (3) PART
185	ML-404944J	SLIDER TRIGGER (2)
186	MP-404852J	PINCH ROLLER (2) PART
187	MR-387406J	HOLDER THRUST WORM
188	MR-391968J	PULLEY TRIGGER (2)
189	MR-387286J1	ROLLER IMPEDANCE
190	MT-390954J1	DISK (2) PART
191	MT-404547J	DISK (3) PART
192	MZ-387298J3	DISK CLUTCH PART
193	MZ-404577J	DISK CLUTCH (2) PART
194	MZ-387331J	GEAR CAM SLIDER
195	MZ-404538J	GEAR CAM SLIDER (3)
196	MZ-387335J	GEAR EJECT
197	MZ-387333J	GEAR FRONT LOADING
198	MZ-404995J	GEAR MID PART
199	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
200	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
201	MZ-387332J	GEAR WORM WHEEL
202	MZ-401686J1	GEAR WORM (2)

- **ALL MODEL**

HEAD DRUM BLOCK



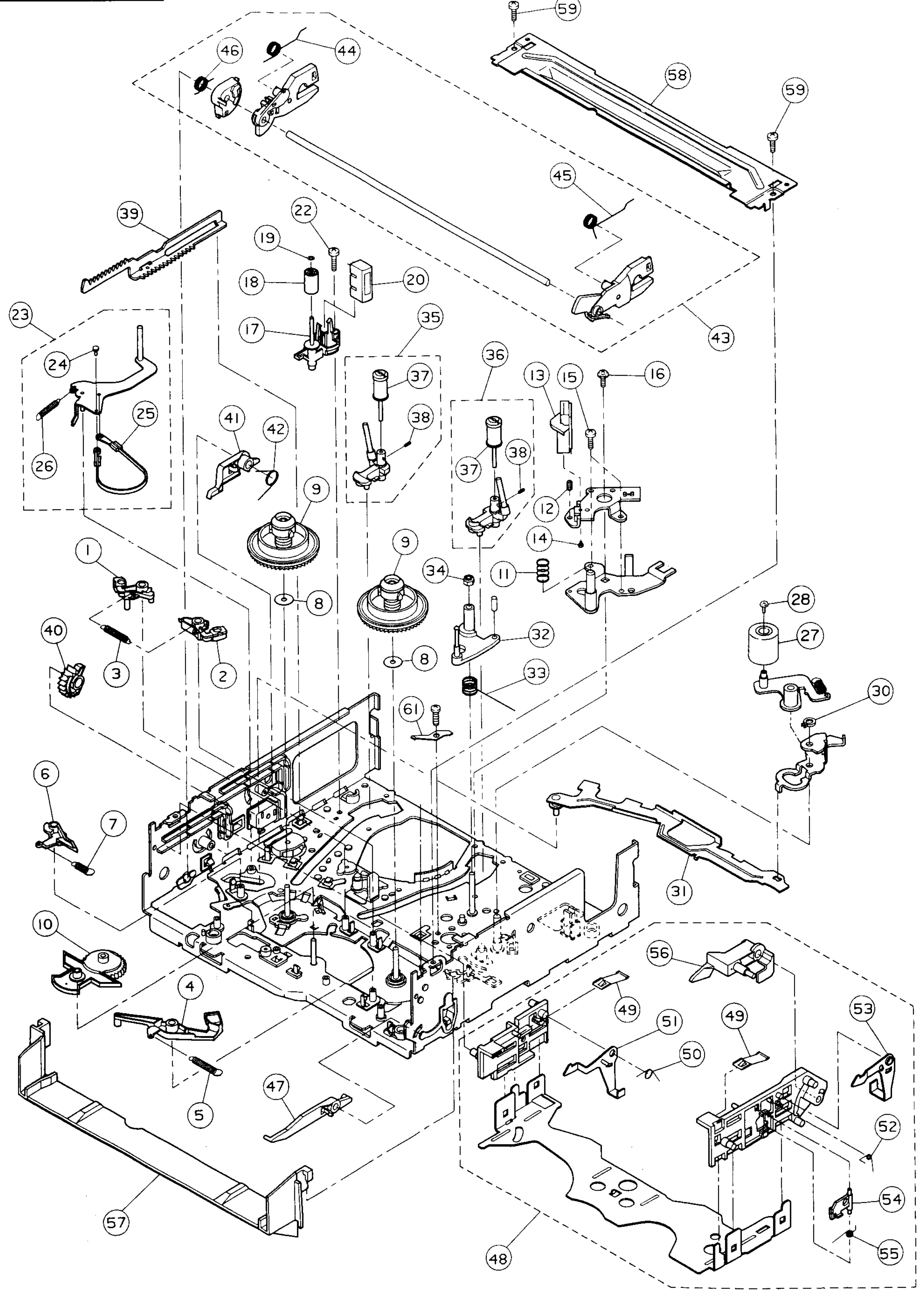
2. HEAD DRUM BLOCK

Ref.No.	Part No.	Description
1	BV-V1123A410B	LOWER DRUM BLK X450EGN
2	BV-V1123A420B	UPPER DRUM BLK X450EGN
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-379405	BID30X06STL CMT
6	MA-387474J3	BASE DRUM
7	ZS-563444	BID26X08STL CMT
8	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
9	ZS-467796	PAN26X12STL CMT
11	ZS-379350	PAN30X06STL CMT
12	ZS-336714	ST BID30X12STL CMT
13	VT-401282J	EARTH BRUSH PART AG
14	ZS-389853J	DT BID30X06STL CMT C080

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

• MODEL VS-F440EA/EDG/EDI/EK/EM/EO/EOG-V/EOH, F441EA, F450EOH, F455EOH

JFX MECHA (1)



3. JFX MECHA BLOCK (1)

Ref.No.	Part No.	Description
1	ML-387316J	MAIN BRAKE (S) PART
2	ML-387318J	MAIN BRAKE (T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-387321J	REVIEW BRAKE PART
5	ZG-387323J	SP PULL REVIEW BRAKE
6	ML-387423J	ARM LOADING BRAKE
7	ZG-387467J	SP PULL LOADING BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-390954J1	DISK (2) PART
10	MI-387294J	IDLER PART
11	ZG-387438J1	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13	HR-405340J	HEAD COMBO HVMZA1121A
14	ZS-404844J	PAN20X02STL BZN PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-344754	ST PAN30X06STL CMT C080
17	MZ-402760J2	HOLDER FE HEAD PART B
18	MR-387286J1	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-390013J	HEAD E HVFME0020A
22	ZS-336714	ST BID30X12STL CMT
23	BL-V1102A050A	TENSION ARM BLK 425EA
24	SZ-407187J2	HOLDER LEVER TENSION (2)
25	ML-390768J4	TENSION BAND PART
26	ZG-387272J	SP PULL TENSION
27	MP-404852J	PINCH ROLLER (2) PART
28	ZS-464703	BID20X04STL CMT
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J1	SLIDER PINCH PART
32	ML-387277J3	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-401776J	NUT REVIEW
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J3	ARM DAMPER
42	ZG-395567J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD (S)
45	ZG-387418J	SP TORSION LOAD (T)
46	ZG-392831J	SP TORSION JOINT (2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER (S)
51	ML-387345J	LEVER DAMPER (S)
52	ZG-388290J1	SP TORSION DAMPER (T)
53	ML-387346J	LEVER DAMPER (T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J1	SP TORSION RELEASE
56	ML-387349J2	ARM SHUTTER
57	SE-395554J	GUIDE FRONT (2)
58	MZ-406134J	PLATE UPPER (2)
59	ZS-358936	ST BID30X06STL CMT
61	ZG-392294J	SP PLATE EARTH
64	BB-V1130A020H	MECHA DECK BLK F260EA

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

4. JFX MECHA BLOCK (1)

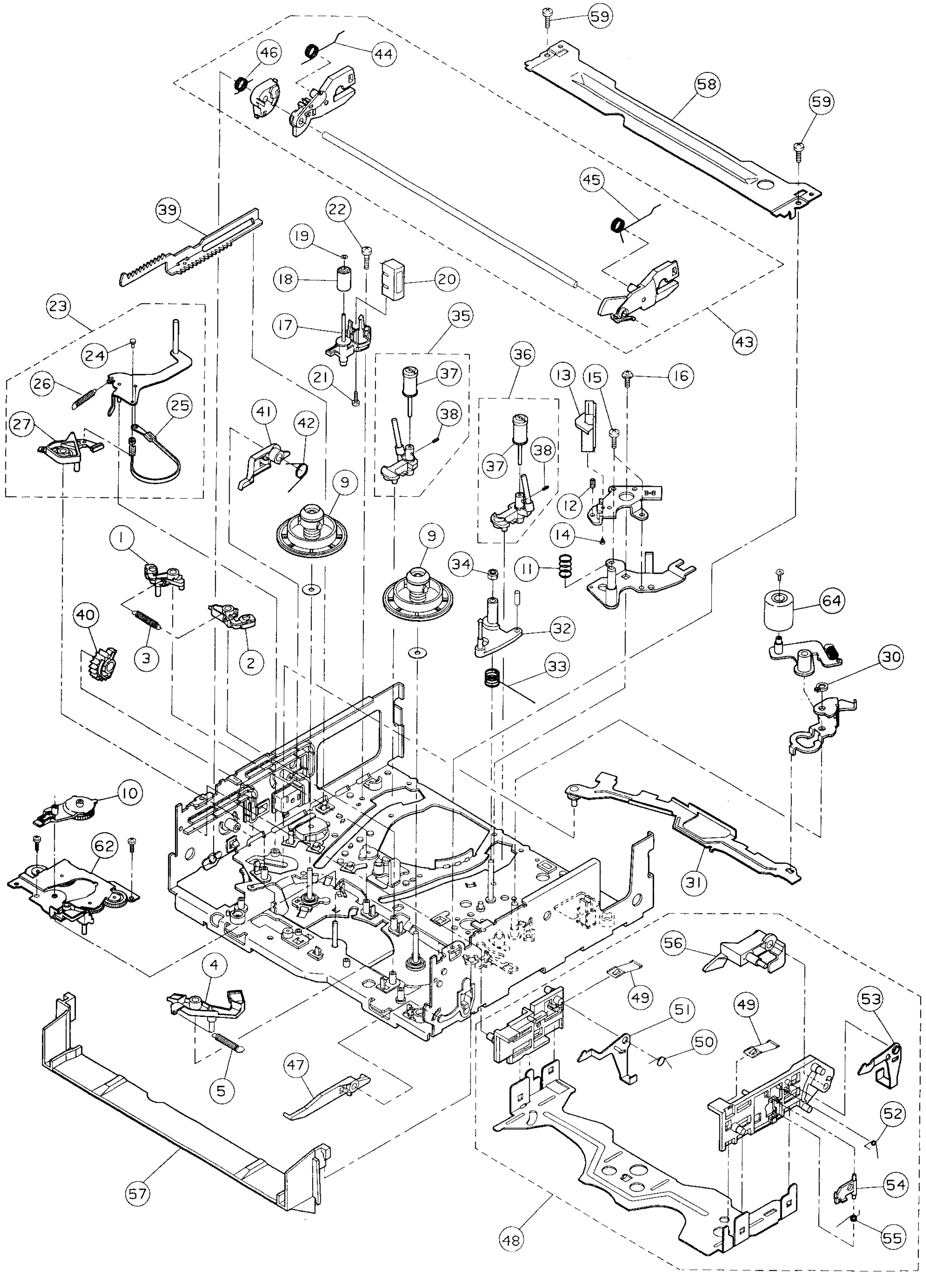
Ref.No.	Part No.	Description
1	ML-387316J	MAIN BRAKE (S) PART
2	ML-387318J	MAIN BRAKE (T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-407119J	REVIEW BRAKE (3) PART
5	ZG-387323J	SP PULL REVIEW BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-404547J	DISK (3) PART
10	MI-404552J	IDLER (2) PART
11	ZG-387438J1	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13	HR-405340J	HEAD COMBO HVMZA1121A
14	ZS-404844J	PAN20X02STL BZN PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-389853J	DT BID30X06STL CMT C080
17	MZ-402760J2	HOLDER FE HEAD PART B
18	MR-387286J1	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-390013J	HEAD E HVFME0020A
22	ZS-336714	ST BID30X12STL CMT
23	BL-V1123A050A	TENSION ARM BLK F600EA
24	SZ-387263J4	HOLDER LEVER TENSION
25	ML-390768J4	TENSION BAND PART
26	ZG-395470J	SP PULL TENSION (2)
27	MZ-395471J3	TENSION BRAKE PART
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J1	SLIDER PINCH PART
32	ML-387277J3	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-401776J	NUT REVIEW
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J3	ARM DAMPER
42	ZG-395567J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD (S)
45	ZG-387418J	SP TORSION LOAD (T)
46	ZG-392831J	SP TORSION JOINT (2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER (S)
51	ML-387345J	LEVER DAMPER (S)
52	ZG-388290J1	SP TORSION DAMPER (T)
53	ML-387346J	LEVER DAMPER (T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J1	SP TORSION RELEASE
56	ML-387349J2	ARM SHUTTER
57	SE-395554J	GUIDE FRONT (2)
58	MZ-387351J2	PLATE UPPER
59	ZS-358936	ST BID30X06STL CMT
60	SZ-391866J1	CUSHION COVER
61	ZG-392294J	SP PLATE EARTH
62	MZ-404995J	GEAR MID PART
64	MP-404852J	PINCH ROLLER (2) PART
65	BL-V1130A160A	ARM PINCH ROLLER BLK F410EK
70	BB-V1130A020C	MECHA DECK BLK F410EK

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

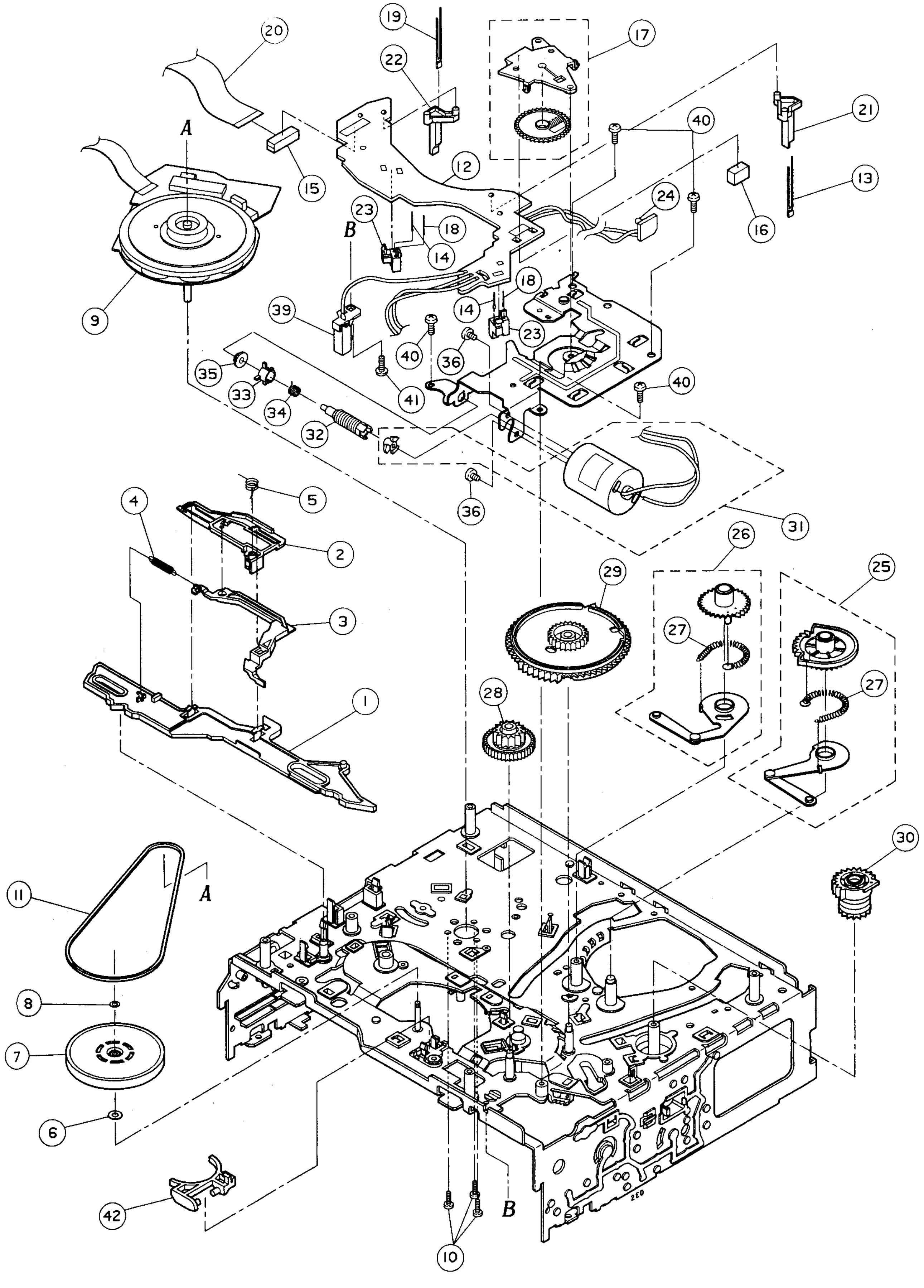
• MODEL VS-F480EK-V/EOG-V, F490EM/EO/EOH/ES, F497EOH

JFX MECHA (1)



• MODEL VS-F440EA/EDG/EDI/EK/EM/EO/EOG-V/EOH, F441EA, F450EOH, F455EOH

JFX MECHA (2)



5. JFX MECHA BLOCK (2)

Ref.No.	Part No.	Description
1	ML-387324J1	SLIDER BRAKE PART
2	ML-404944J	SLIDER TRIGGER (2)
3	ML-387402J1	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J3	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
10	ZS-365149	PT BID26X06STL CMT
11	MB-387289J	BELT CAPSTAN
12	EA-387496J	PC (#) SENSOR
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ED-390012J	D LED GL4800 INFRARED [D2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
18	ET-390010J	TR PHOTO PT4800 [TR2]
19	ET-390009J	TR PHOTO PT493F [TR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 [TR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-387331J	GEAR CAM SLIDER
30	MZ-387333J	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART [LOADING MOTOR]
32	MZ-387330J	GEAR WORM PART
33	MR-391968J	PULLEY TRIGGER (2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-358936	ST BID30X06STL CMT
42	ML-387311J2	ARM COUPLING

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

6. JFX MECHA BLOCK (2)

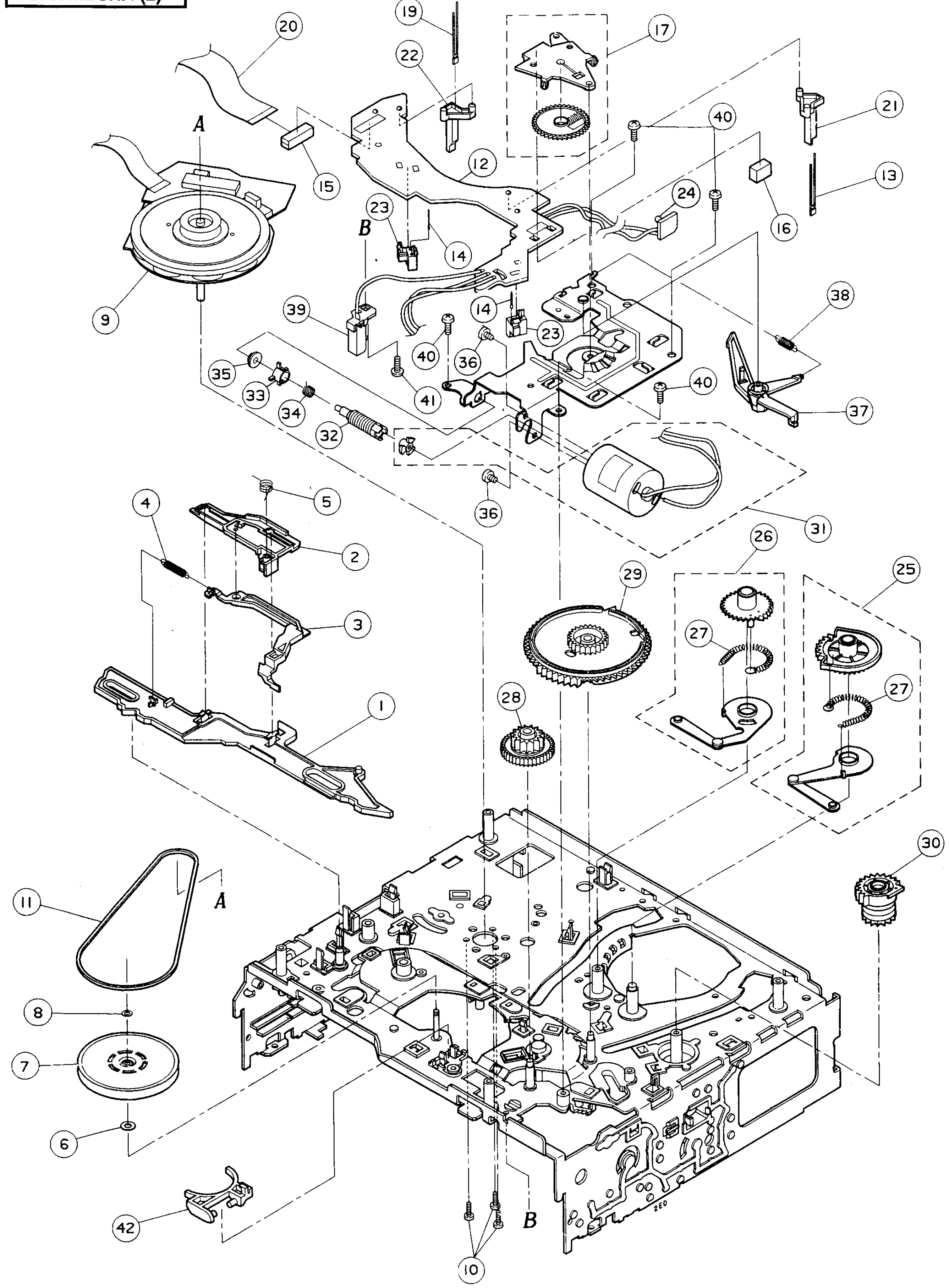
Ref.No.	Part No.	Description
1	ML-404567J1	SLIDER BRAKE (3) PART
2	ML-404944J	SLIDER TRIGGER (2)
3	ML-387402J1	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-404577J	DISK CLUTCH (2) PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
10	ZS-365149	PT BID26X06STL CMT
11	MB-407117J	BELT CAPSTAN (3)
12	EA-404543J	PC (#) SENSOR (2) KFX
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ET-403420J	DETECTOR SG-105LF [PH1][PH2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
19	ET-390009J	TR PHOTO PT493F [TR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-404542J	HOLDER PHOTO SENSOR (2)
24	ET-361490	TR PHOTO PN268 [TR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-404538J	GEAR CAM SLIDER (3)
30	MZ-387333J	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART [LOADING MOTOR]
32	MZ-401686J1	GEAR WORM (2)
33	MR-391968J	PULLEY TRIGGER (2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
37	BL-387458J2	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-358936	ST BID30X06STL CMT
42	ML-387311J2	ARM COUPLING

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

• MODEL VS-F480EK-V/EOG-V, F490EM/EO/EOH/ES, F497EOH

JFX MECHA (2)



7. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1150A600A	PC (#) MAIN (PAL) BLK F440EA
1B	BA-V1150A600D	PC (#) MAIN (PAL) BLK F440EDI
1C	BA-V1150A600E	PC (#) MAIN (PAL) BLK F440EM
1D	BA-V1152A600B	PC (#) MAIN (PAL) BLK F490EM
2A	BA-V1132A610F	PC PRE AMP BLK F400EA [EA]
2B	BA-V1132A615C	PC PRE AMP BLK F400EDI [EDI]
2C	BA-V1132A615G	PC PRE AMP BLK F440EM [F440EM]
2D	BA-V1132A610G	PC PRE AMP BLK F410EM [F490EM]
3A	BA-V1146A635K	PC OPERATION (A) BLK F440EA
3B	BA-V1146A635L	PC OPERATION (A) BLK F441EA
3C	BA-V1146A640A	PC OPERATION (A) BLK F440EDI
3D	BA-V1146A640C	PC OPERATION (A) BLK F440EM
3E	BA-V1152A630B	PC—OPERATION (G) BLK F490EM
4A	BA-V1130A500A	PC POWER BLK F220EDG [EA,EDI]
4B	BA-V1130A510A	PC (#) POWER EM BLK F220EM [EM]

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARD.

- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD
- VIF UNIT

PC (#) OPERATION P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION-A P.C BOARD
- OPERATION-B P.C BOARD

PC (#) POWER P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD
- DIODE P.C BOARD

8. MAIN (A) P.C BOARD

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D8	ED-387919J	D ZENER H HZS6A1L
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D310	ED-307572	D SILICON H 1SS131 [F490EM]
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131 [EM]
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D501	ED-307572	D SILICON H 1SS131 [EA,EDI]
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D508	ED-307572	D SILICON H 1SS131 [EA,EDI]
D509	ED-307572	D SILICON H 1SS131
DL500	EH-390730J	DL EFD-JF124A13J
DL501	EH-394838J	DL ADL-FN1344Q [EM]
FR201	ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR350	ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP
IC201	EI-400756J	IC NJM4558L-B
IC301A	EI-408849J	IC MN675201 XDL JFLSYP1 [EXCEPT F490EM]
IC301B	EI-408850J	IC MN675201 XDJ JFXSYP1 [F490EM]
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N
IC304	EI-360586	IC LA6358S [F490EM]
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992
IC402	EI-373981J1	IC BA10393N
IC403	EI-356457	IC BU4013B
L1	EO-373260	COIL FIX 1 LAP02 F05 1R0K [EA]
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
L302	EO-345881	COIL FIX 1 EL0606SKI 101J
L303	EO-354600	COIL FIX 1 LAP02 F05 101K
L401	EO-354600	COIL FIX 1 LAP02 F05 101K
L402	EO-357508	COIL FIX 1 LAP02 F05 151K
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K

Ref.No.	Part No.	Description
L404	EO-345880	COIL FIX 1 EL0606SKI 820J
L405	EO-354600	COIL FIX 1 LAP02 F05 101K
L406	EO-354600	COIL FIX 1 LAP02 F05 101K
L410	EO-345874	COIL FIX 1 EL0606SKI 330J
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L472	EO-345880	COIL FIX 1 EL0606SKI 820J
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K
L500	EO-345880	COIL FIX 1 EL0606SKI 820J
L501	EO-353900	COIL FIX 1 LAP02 F05 150K
L502	EO-345880	COIL FIX 1 EL0606SKI 820J [EM]
L503	EO-353900	COIL FIX 1 LAP02 F05 150K [EM]
L504	EO-353900	COIL FIX 1 LAP02 F05 150K [EM]
L505	EO-345880	COIL FIX 1 EL0606SKI 820J
L506	EO-345880	COIL FIX 1 EL0606SKI 820J
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
L509	EO-345880	COIL FIX 1 EL0606SKI 820J
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K
L570	EO-345880	COIL FIX 1 EL0606SKI 820J
L590	EO-387802J	COIL FIX 1 EL0405SKI 330K [EM]
MD1A	BV-387610J	RF CONVERTER YAA21-0453 EA [EA]
MD1B	BV-404007J	RF CONVERTER MDLK6E766A EDI [EDI]
MD1C	BV-387611J	RF CONVERTER YAA21-0454 EV [EM]
PJ101	EJ-387614J	PIN J T6353-ABCB YL BK 4P
R214	ER-403405J	R OMF H S12 FS 1W R75J
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-375777	TR 2SC2926S P,Q
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-353899	TR 2SA1317 S,T,U
TR5	ET-353899	TR 2SA1317 S,T,U
TR7	ET-353899	TR 2SA1317 S,T,U
TR8	ET-354414	TR DTC144ES
TR9	ET-354414	TR DTC144ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U
TR15	ET-353897	TR DTC114ES
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V
TR19	ET-354414	TR DTC144ES [EA,EM]
TR101	ET-354414	TR DTC144ES
TR102	ET-356336	TR DTA114ES
TR103	ET-354414	TR DTC144ES
TR104	ET-353899	TR 2SA1317 S,T,U
TR105	ET-353899	TR 2SA1317 S,T,U
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-356336	TR DTA114ES
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR205	ET-388338J	TR 2SB1425 S,E
TR210	ET-405622J	TR 2SD2061 E,F
TR301	ET-354414	TR DTC144ES
TR302	ET-400218J	TR 2SC1740S R,S
TR303	ET-363953	TR DTA114TS [EM]
TR304	ET-354415	TR DTA144ES
TR305	ET-354414	TR DTC144ES
TR306	ET-354414	TR DTC144ES
TR307	ET-373985	TR DTA144TS
TR308	ET-373985	TR DTA144TS
TR309	ET-373985	TR DTA144TS
TR310	ET-354414	TR DTC144ES
TR313	ET-354414	TR DTC144ES
TR401	ET-356336	TR DTA114ES
TR402	ET-354414	TR DTC144ES
TR404	ET-354364	TR DTC143TS
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-354414	TR DTC144ES
TR409	ET-360399	TR DTC114TS
TR410	ET-354414	TR DTC144ES
TR411	ET-360399	TR DTC114TS

Ref.No.	Part No.	Description
TR413	ET-354415	TR DTA144ES
TR414	ET-388338J	TR 2SB1425 S,E
TR415	ET-353899	TR 2SA1317 S,T,U
TR417	ET-360399	TR DTC114TS
TR420	ET-354414	TR DTC144ES
TR421	ET-364040	TR UN421D
TR423	ET-356336	TR DTA114ES
TR424	ET-388338J	TR 2SB1425 S,E
TR425	ET-354414	TR DTC144ES [EM]
TR470	ET-353899	TR 2SA1317 S,T,U
TR471	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353897	TR DTC114ES
TR502	ET-360646	TR DTA143ES [EM]
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR508	ET-356336	TR DTA114ES
TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR513	ET-356336	TR DTA114ES [EDI,EM]
TR514	ET-354414	TR DTC144ES [EDI,EM]
TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR572	ET-354414	TR DTC144ES
TR573	ET-354414	TR DTC144ES
VR301	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
VR401	EV-405657J	R S-FIX H T05 KVSF637T 0.1W103
VR402	EV-404300J	R S-FIX H T05 KVSF637T 0.1W472
VR403	EV-405659J	R S-FIX H T05 KVSF637T 0.1W682
VR404	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
WF201	EW-404138J1	CORD KX MA-POW L=225 12P
X301	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ
1A	BV-403236J1	VIF UNIT KX EA [EA]
1B	BV-403963J	VIF UNIT KX EDI [EDI]
1C	BV-403239J1	VIF UNIT KX EM [EM]
2A	EE-408417J	TV TUNER VTSS6AZV EA [EA]
2B	EE-408471J	TV TUNER ENV-77890F2 SK [EDI]
2C	EE-405638J	TV TUNER VTSS6CZ EM [EM]
3A	SP-388307J	PANEL REAR JACK EA [EA,EM]
3B	SP-404013J	PANEL REAR JACK EDI (2) [EDI]

9. MAIN (B) P.C BOARD

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131 [EDI,EM]
D801	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131 [F490EM]
D902	ED-307572	D SILICON H 1SS131 [F490EM]
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ
FL801A	EO-388362J	COIL OSC 1 V1102 [EXCEPT F490EM]
FL801B	EO-388363J	COIL OSC 1 V1105-1 [F490EM]
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K [EDI,EM]
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EM]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [EM]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L901	EO-345881	COIL FIX 1 EL0606SKI 101J [F490EM]
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EM]
IC702	EI-200573	IC TC4053BP [EM]
IC801	EI-388360J	IC BA7765AS
IC901	EI-386468J	IC BA3308 [F490EM]
IC902	EI-310036	IC TC4066BP [F490EM]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V [EDI,EM]
TR605	ET-356336	TR DTA114ES [EDI,EM]
TR606	ET-356336	TR DTA114ES [EDI,EM]
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-389803J	TR 2SA933S R,S
TR609	ET-354414	TR DTC144ES [EDI,EM]
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [F490EM]
TR901	ET-354414	TR DTC144ES [F490EM]
TR902	ET-354414	TR DTC144ES [F490EM]
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V [F490EM]
TR904	ET-389803J	TR 2SA933S R,S [F490EM]
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VL701	EO-366893	COIL VARI 1 21D6 8.20MH [EM]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802A	EV-403968J	R S-FIX V T05EVNDCAA03 0.1W473 [EXCEPT F490EM]
VR802B	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104 [F490EM]
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

10. PRE AMP P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D101	ED-405247J	D ZENER H MTZJ2.7A T26 [F490EM]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F490EM]
IC1	EI-387586J	IC BA7244BS
L1	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-345880	COIL FIX 1 EL0606SKI 820J
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L11	EO-345880	COIL FIX 1 EL0606SKI 820J
L12	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L13	EO-381195J	COIL FIX 1 EL0405SKI 331K
L14A	EO-376607	COIL FIX 1 LF-5.0S F05 181K [EXCEPT F440EM]
L14B	EO-376605	COIL FIX 1 LF-5.0S F05 151K [F440EM]
L15	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L16	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F490EM]
PS1	EJ-403389J	SOCKET HOUSING 5062-30-10-18
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-360399	TR DTC114TS [EM]
TR4	ET-360399	TR DTC114TS
TR5	ET-364040	TR UN421D
TR6	ET-354414	TR DTC144ES [EDI,EM]
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353897	TR DTC114ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-364040	TR UN421D
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-354364	TR DTC143TS [EDI,EM]
TR16	ET-354414	TR DTC144ES
TR17	ET-364040	TR UN421D
TR18	ET-353897	TR DTC114ES
TR19	ET-354414	TR DTC144ES
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [F490EM]
VR1	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
VR4	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403386J1	CORD FFC P1.25 L=230 18P

11. OPERATION (A) P.C BOARD (EXCEPT F490EM)

Ref.No.	Part No.	Description
D3	ED-307572	D SILICON H 1SS131 [EA]
D5	ED-307572	D SILICON H 1SS131 [EM]
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403278J	D ZENER H UTZJ7.5B
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D31	ED-307572	D SILICON H 1SS131
D41	ED-307572	D SILICON H 1SS131 [EA,EM]
D42	ED-307572	D SILICON H 1SS131 [EM]
D43	ED-307572	D SILICON H 1SS131 [EA]
D44	ED-307572	D SILICON H 1SS131 [EDI]
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IC1	EI-408391J1	IC UPD75217CW-146 JBXOPP2
IC2	EI-394467J	IC X24C01P
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J2	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1A	ES-408405J	SW TACT EVQ 235 09K T05 [F440EA,RESET]
SW1B	ES-408404J	SW TACT EVQ 235 07K T05 [EDI/EM,RESET]
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

12. OPERATION (G) -A P.C BOARD (F490EM)

Ref.No.	Part No.	Description
D5	ED-307572	D SILICON H 1SS131
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403731J	D ZENER H UTZJ8.2C
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D28	ED-307572	D SILICON H 1SS131
D41	ED-307572	D SILICON H 1SS131
D42	ED-307572	D SILICON H 1SS131
D45	ED-307572	D SILICON H 1SS131
D46	ED-307572	D SILICON H 1SS131
D47	ED-307572	D SILICON H 1SS131
D48	ED-307572	D SILICON H 1SS131
FL1	EM-403367J	IND FL FV506G CHARACTER
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IC1	EI-408397J	IC UPD75217CW-147 JFXOPP1
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PJ1	EJ-408399J	PHONE J 2P YKB21-5165 3.5
PJ2	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW10	ES-349474	SW TACT SKHHAM004A
SW11	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
SW13	ES-349474	SW TACT SKHHAM004A
SW14	ES-349474	SW TACT SKHHAM004A
SW15	ES-349474	SW TACT SKHHAM004A
SW16	ES-349474	SW TACT SKHHAM004A
SW17	ES-349474	SW TACT SKHHAM004A
SW18	ES-349474	SW TACT SKHHAM004A
SW19	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

13. OPERATION (G) - B P.C BOARD (F490EM)

Ref.No.	Part No.	Description
PH1	ET-381637J2	DETECTOR GP1U521X
SW3	ES-349474	SW TACT SKHHAM004A

14. VIF UNIT (EA,EM)

Ref.No.	Part No.	Description
CF1A	EH-714626	FILTER SAW SAF36.9MZ70Z [EA]
CF1B	EH-730625J	FILTER CE SAF38.9MZW70Z [EM]
CF2	EH-373920	FILTER CE SFE5.5MB
CF3A	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EA]
CF3B	EH-729986J	FILTER CE TPS5.5MB2 [EM]
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3	EO-725953J	COIL SIF DET 6F16263A2
L4A	EO-714616	COIL RF 6F16115B3 [EA]
L4B	EO-714614	COIL RF 6F16115B1 [EM]
L5A	EO-714613	COIL RF 6R16113B3 [EA]
L5B	EO-714610	COIL RF 6F16113B1 [EM]
L6	EO-387799J	COIL FIX 1 EL0405SKI 180K
L7	EO-387799J	COIL FIX 1 EL0405SKI 180K
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
VR51	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223

15. VIF UNIT (EDI)

Ref.No.	Part No.	Description
CF1	EH-368816	FILTER CE SAF38.0MZA70Z [EDI]
CF2	EH-376338	FILTER CE TPS6.5MB [EDI]
CF3	EH-373919	FILTER CE TPS6.0MB [EDI]
CF51	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ [EDI]
CF52	EH-381309J	FILTER CE SFS6.0MD 6.000MHZ [EDI]
CF53	EH-780128	FILTER CE SFE 6.5MB [EDI]
IC1	EI-368809	IC M51496P
L1	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L2	EO-725954J	COIL SIF DET 6F16263A3
L3	EO-714614	COIL RF 6F16115B1
L4	EO-714610	COIL RF 6F16113B1
L5	EO-397238J	COIL FIX 1 EL0405SKI 6R8K
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L51	EO-396361J	COIL FIX 1 EL0405SKI 8R2K
L52	EO-387803J	COIL FIX 1 EL0405SKI 221K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
Q3	ET-370819	TR.CHIP 2SC3052
Q4	ET-713614	TR CHIP 2SA1235 E,F
Q51	ET-370819	TR.CHIP 2SC3052
Q52	ET-370819	TR.CHIP 2SC3052
VR1	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
X51	EI-368829	OSC CE CSB512P

16. POWER SUPPLY P.C BOARD (EA,EDI)

Ref.No.	Part No.	Description
C1	EC-406634J	C EC V SXE12 222M 25.0DC
C2	EC-363490	C EC V CUT SME 222M 16.0DC
C3	EC-406635J	C EC V SXE16 222M 35.0DC
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-511907	D SILICON 1N4002 100/1.0A
D7	*ED-511907	D SILICON 1N4002 100/1.0A
D8	*ED-511907	D SILICON 1N4002 100/1.0A
D9	*ED-511907	D SILICON 1N4002 100/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A
D11	*ED-511907	D SILICON 1N4002 100/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A
D13	ED-405373J	D ZENER H MTZJ16A T26
D14	ED-404032J	D ZENER H UTZJ39A
D15	ED-405524J	D ZENER H MTZJ36A T26
D16	*ED-404029J	D ZENER H UTZJ10B T26
D17	ED-511907	D SILICON 1N4002 100/1.0A
D18	ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR4	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-366365	TR 2SB1185 E,F
TR3	*ET-405622J	TR 2SD2061 E,F
TR4	*ET-405622J	TR 2SD2061 E,F
TR5	*ET-405622J	TR 2SD2061 E,F
TR6	*ET-391025J	TR 2SD2012
TR7	*ET-366365	TR 2SB1185 E,F

17. POWER SUPPLY (1) P.C BOARD (EM)

Ref.No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-408377J	C EC V CUT KMG 222M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403880J	C EC V T05 LXF8 221M 25.0DC
C23	EC-404197J	C EC V T05 SXE8 330M 80.0DC
C24	EC-404197J	C EC V T05 SXE8 330M 80.0DC
C101	*EC-389414J	C CE V DE7 B102K 400AC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-511907	D SILICON 1N4002 100/1.0A
D18	*ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-408807J	D ZENER H HZS12C3
D28	ED-391005J	D ZENER H HZS12B1
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D57	ED-405264J	D ZENER H UTZJ10C
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
D101	*ED-511907	D SILICON 1N4002 100/1.0A
D102	ED-403947J	D ZENER H UTZJ22C T26
D103	ED-307572	D SILICON H 1SS131
D104	ED-404031J	D ZENER H UTZJ11B T26
D106	ED-401046J	D SILICON RL104F-E T26 400/1A
D107	ED-403948J	D ZENER H UTZJ16C T26
D108	ED-405265J	D ZENER H UTZJ36C
D109	ED-405265J	D ZENER H UTZJ36C
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
FR101	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR102	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-393769J	COIL FIX 1 LHL06TB T05 471K
R14	ER-393768J	R OMF H S15 FS 2W 270J
RL101	*EQ-400153J	RELAY POW AG2013 1TR 12V
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-389803J	TR 2SA933S R,S
TR102	ET-400218J	TR 2SC1740S R,S
TR103	ET-366168	TR 2SD1292 Q,R
TR104	ET-366365	TR 2SB1185 E,F
TR106	ET-389803J	TR 2SA933S R,S
TR107	*ET-404195J	TR 2SC4486 S,T T05

18. POWER SUPPLY (2) P.C BOARD (EM)

Ref.No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-403732J	D ZENER H UTZJ5.6A
D56	ED-391005J	D ZENER H HZS12B1
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-389803J	TR 2SA933S R,S
TR4	*ET-366168	TR 2SD1292 Q,R
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-389803J	TR 2SA933S R,S
TR50	ET-353897	TR DTC114ES

19. DIODE P.C BOARD (EM)

Ref.No.	Part No.	Description
D60	*ED-379298	D SILICON DBA20B 100/2.0A

20. SUB P.C BOARD (EM)

Ref.No.	Part No.	Description
D1	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
D2	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
D3	ED-403267J	D ZENER H MTZJ3.3B T26
TR1	ET-366365	TR 2SB1185 E,F
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V

21. JOG/SHUTTLE P.C BOARD (F490EM ONLY)

Ref.No.	Part No.	Description
SW1	ES-403377J	SW ROTARY ENCODER SRGPHJ

22. FINAL ASSEMBLY

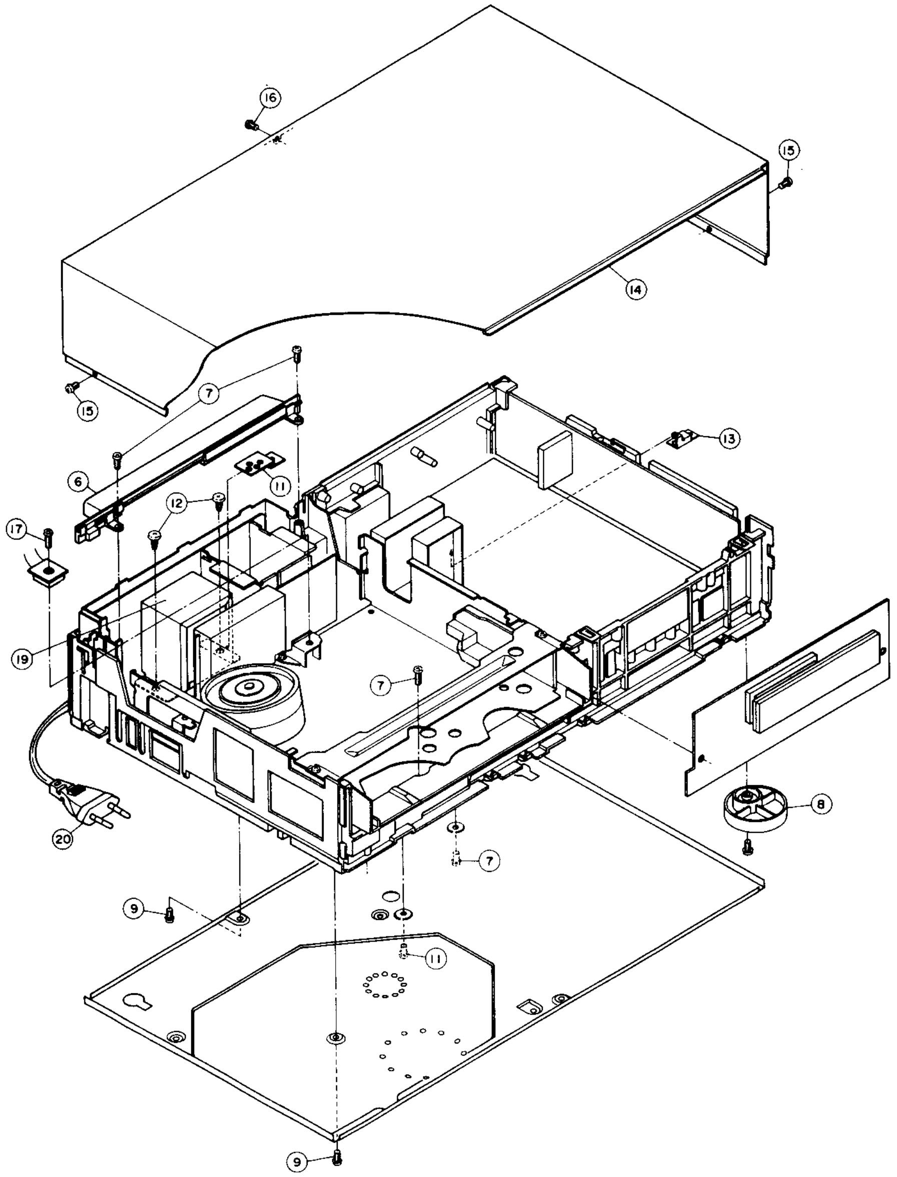
Ref.No.	Part No.	Description
1A	BD-409284J	PANEL FRONT VS-F440EOH PART [F440EA,F440EDI]
1B	BD-409299J1	PANEL FRONT VS-F441EA PART [F441EA]
1C	BD-409298J	PANEL FRONT VS-F440EM PART [F440EM]
1D	BD-409126J1	PANEL FRONT VS-F490EM PART [F490EM]
2A	SE-409197J	MASK CASSETTE (J) VS-F440 (E2) [F400EA,F400EDI]
2B	SE-409265J	MASK CASSETTE VS-F441 (E) [F441EA]
2C	SE-409196J	MASK CASSETTE (J) VS-F440 (E1) [F440EM]
2D	SE-409104J1	MASK CASSETTE VS-F490 (E2) [F490EM]
3	ZG-387370J	SP MASK
4	SP-409113J	DOOR (E2) [F490EM]
5	SZ-404290J	MINI SIDE LOCK [F490EM]
6	SC-387353J	COVER TRANS
7	ZS-378341	PLX BID30X12STL CMT
8	SA-387507J	FOOT SX
9	ZS-358936	ST BID30X06STL CMT
11	ZG-387505J	PLATE EARTH
12	ZS-373962	PLX BID40X10STL CMT
13	ZG-387354J	PLATE EARTH (2)
14	SP-407479J	COVER UPPER JX
15	ZS-385611J	DT BID26X06STL BNI
16	ZS-391046J	PLX BID26X10STL BNI
17	ZS-659046	PAN26X10STL CMT
18	SK-407561J	KNOB SHUTTLE [F490EM]
19A	*BT-410487J	TRANS POW V1130 EA [EM]
19B	*BT-410489J	TRANS POW V1130 ES [EDI]
19C	*BT-410488J	TRANS POW V1130 EM [EM]
20A	*EW-404003M	AC CORD 200 SA-2 WITH TUBE S [EA]
20B	*EW-404002M	AC CORD 200 SE-1 WITH TUBE E [EDI,EM]
21A	SZ-401874J	STOPPER MASK [EXCEPT F490EM]
21B	SZ-407583J	STOPPER MASK (2) [F490EM]
22	SK-407562J	KNOB JOG [F490EM]
26A	SE-409191J	WINDOW FLD (3) [F440EM]
26B	SE-409119J	WINDOW FLD (2) [F490EM]

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

23. ACCESSARY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1038A010A	REMOCON BLK RC-V250E [EXCEPT F490EM]
2B	AV-B1043A010E	REMOCON BLK RC-V452E [F490EM]

FINAL ASSEMBLY BLOCK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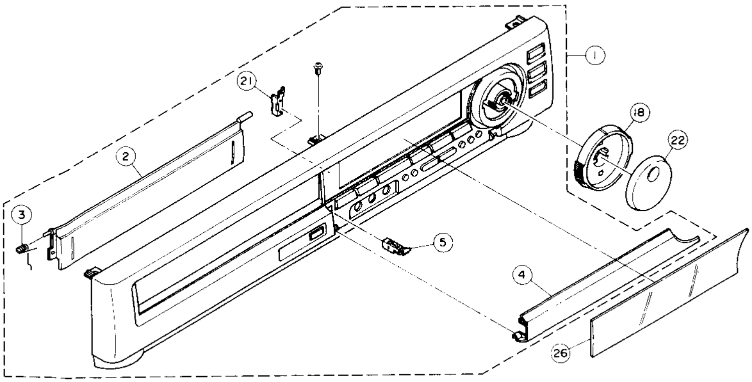
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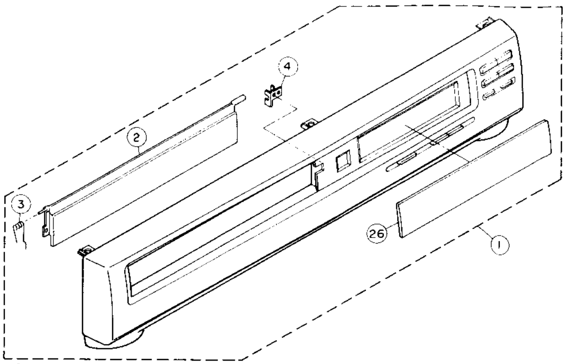
VS-F490



VS-F440/F441

6-2. MODEL VS-F440EK, F480EK-V, F490ES

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	AV-B1038A010A	REMOCON BLK RC-V250E [440EK]
2	AV-B1040A010E	REMOCON BLK RC-V451E [480EK]
3	AV-B1043A010E	REMOCON BLK RC-V452E [490ES]
4	BB-V1130A020H	MECHA DECK BLK F260EA
5	BB-V1130A020C	MECHA DECK BLK F410EK
6	BL-V1102A140A	ARM LOADING BLK 425EA
7	BL-387458J2	CAPSTAN BRAKE PART
8	BL-V1123A050A	TENSION ARM BLK F600EA
9	BL-V1102A050A	TENSION ARM BLK 425EA
10	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
11	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
12	BM-387503J	MOTOR PART [LOADING MOTOR]
13	*BT-403872J	TRANS POW V1130 EK [440EK]
14	*BT-403883J	TRANS POW V1130 EOG-V [480EK]
15	*BT-410489J	TRANS POW V1130 ES [490ES]
16	BV-V1102A150A	CASSETTE LOAD BLK 425EA
17	BV-V1102A070A	LEADER S BLK 425EA
18	BV-V1102A080A	LEADER T BLK 425EA
19	BV-V1123A410B	LOWER DRUM BLK X450EGN
20	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]
21	BV-403411J	RF CONVERTER MDLK6B734A ES [ES]
22	BV-V1123A420B	UPPER DRUM BLK X450EGN
23	BV-403238J1	VIF UNIT KX EK [EK]
24	BV-403242J1	VIF UNIT KX ES [ES]
25	EA-387496J	PC (#) SENSOR
26	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
27	EC-363490	C EC V CUT SME 222M 16.0DC
28	EC-406634J	C EC V SXE12 222M 25.0DC
29	EC-406635J	C EC V SXE16 222M 35.0DC
30	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
31	ED-390011J	D LED GL451 INFRARED [D1]
32	ED-390012J	D LED GL4800 INFRARED [D2]
33	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
34	*ED-379298	D SILICON DBA20B 100/2.0A
35	ED-366443	D SILICON H MA700FA5 F10
36	ED-307572	D SILICON H 1SS131
37	ED-511907	D SILICON 1N4002 100/1.0A
38	ED-391005J	D ZENER H HZS12B1
39	ED-396057J	D ZENER H HZS16-2
40	ED-396060J	D ZENER H HZS18-2
41	ED-397233J	D ZENER H HZS5C3
42	ED-387919J	D ZENER H HZS6A1L
43	ED-405373J	D ZENER H MTZJ16A T26
44	ED-404170J	D ZENER H MTZJ2.0A T26 [480EK]
45	ED-405247J	D ZENER H MTZJ2.7A T26 [F490ES]
46	ED-403267J	D ZENER H MTZJ3.3B T26
47	ED-405524J	D ZENER H MTZJ36A T26
48	ED-403724J	D ZENER H UTZJ10A
49	*ED-404029J	D ZENER H UTZJ10B T26
50	ED-405264J	D ZENER H UTZJ10C
51	ED-403725J	D ZENER H UTZJ12C [440EK]
52	ED-404032J	D ZENER H UTZJ39A
53	ED-403732J	D ZENER H UTZJ5.6A
54	ED-403729J	D ZENER H UTZJ5.6C
55	ED-403278J	D ZENER H UTZJ7.5B
56	ED-404086J	D ZENER H UTZJ7.5C
57	ED-403731J	D ZENER H UTZJ8.2C
58	ED-403279J	D ZENER H UTZJ9.1B
59	EE-387607J1	TV TUNER TERB1-008B EK [EK]
60	EE-387603J1	TV TUNER TERE1-019B EO [ES]
61	EH-383083J	COMP R RGLE3X 103J
62	EH-403945J	COMP R RGLE9X 103J
63	EH-394838J	DL ADL-FN1344Q [480EK,490ES]
64	EH-390730J	DL EFD-JF124A13J
65	EH-373921	FILTER CE SFE6.0MB
66	EH-373919	FILTER CE TPS6.0MB
67	EH-394684J	FILTER EMI ZBF503D-00TA T05
68	EH-714627	FILTER SAW SAF38.9MW70Z [ES]
69	EH-714628	FILTER SAW SAF39.5MZ70Z [EK]
70	EI-394680J	IC AN3171K
71	EI-373981J1	IC BA10393N
72	EI-373980	IC BA15218N
73	EI-386468J	IC BA3308 [480EK,490ES]
74	*EI-381575J	IC BA6121
75	EI-353421	IC BA6229
76	EI-387586J	IC BA7244BS
77	EI-388360J	IC BA7765AS
78	EI-356457	IC BU4013B
79	EI-360586	IC LA6358S
80	EI-403234J1	IC LA7391A
81	EI-394856J	IC LC8992
82	EI-394861J	IC LVA521S-2 [EK]
83	EI-401050J	IC LVA523SA2
84	EI-389622J	IC L5631
85	EI-387019J	IC MC1377P
86	EI-403469J	IC MM1068XS
87	EI-408850J	IC MN675201 XDJ JFXSYP1 [480EK,490ES]
88	EI-408849J	IC MN675201 XDL JFLSYP1 [440EK]
89	EI-408434J	IC MV1815-1BA
90	EI-368809	IC M51496P
91	EI-403964J	IC NJM2245L [EK]
92	EI-400756J	IC NJM4558L-B
93	EI-373955	IC S-8053ALR
94	EI-408393J	IC ST24C01B1
95	EI-405224J	IC ST24C02
96	EI-310036	IC TC4066BP [EK]
97	EI-405722J	IC UPD6450CX-515
98	EI-408391J1	IC UPD75217CW-146 JBXOPP2
99	EI-408397J	IC UPD75217CW-147 JFXOPP1
100	EI-410521J	IC UPD75218CW-014 JXPDC1
101	EI-410125J	IC V53C464AP-80
102	EI-403467J	OSC CE CSB500F40 15.680KHZ
103	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
104	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
105	EI-408433J	OSC X'TAL HC-43/U 27750KHZ
106	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
107	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
108	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ
109	EI-381632J	OSC X'TAL 86686 4.433619MHZ
110	EM-401077J	IND FL FV496G CHARACTER
111	EM-403367J	IND FL FV506G CHARACTER [ES]
112	EM-408395J	IND FL FV562G CHARACTER [EK]

Ref.No.	Part No.	Description
113	EO-388362J	COIL OSC 1 V1102 [440EK]
114	EO-388363J	COIL OSC 1 V1105-1 [480EK,490EK]
115	EO-388349J	COIL OSC 1 V1105-2 [F490ES]
116	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
117	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
118	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
119	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
120	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
121	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [480EK]
122	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
123	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
124	ER-403405J	R OMF H S12 FS 1W R75J
125	ES-373099	SW LEAF MTS10110MPC1
126	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
127	ES-403377J	SW ROTARY ENCODER SRGPHJ
128	ES-408404J	SW TACT EVQ 235 07K T05
129	ES-349474	SW TACT SKHHAM004A
130	ET-381637J2	DETECTOR GP1U521X
131	ET-403420J	DETECTOR SG-105LF [PH1][PH2]
132	ET-356336	TR DTA114ES
133	ET-354415	TR DTA144ES
134	ET-373985	TR DTA144TS
135	ET-353897	TR DTC114ES
136	ET-360399	TR DTC114TS
137	ET-354364	TR DTC143TS
138	ET-354414	TR DTC144ES [EK]
139	ET-361490	TR PHOTO PN268 [TR1]
140	ET-390010J	TR PHOTO PT4800 [TR2]
141	ET-390009J	TR PHOTO PT493F [TR4]
142	ET-364040	TR UN421D
143	ET-353899	TR 2SA1317 S,T,U
144	ET-389803J	TR 2SA933S R,S
145	*ET-366365	TR 2SB1185 E,F
146	ET-388338J	TR 2SB1425 S,E
147	ET-356817	TR 2SB891 Q,R
148	ET-375777	TR 2SC2926S P,Q
149	ET-397160J	TR 2SC3330 R,S,T,U,V
150	*ET-404195J	TR 2SC4486 S,T T05
151	*ET-381175J	TR 2SD1856
152	*ET-405622J	TR 2SD2061 E,F
153	EX-405691J	THERMISTOR NTH5D332KA
154	HE-390013J	HEAD E HVFME0020A
155	HR-405340J	HEAD COMBO HVMZA1121A
156	MB-387289J	BELT CAPSTAN
157	MB-407117J	BELT CAPSTAN (3)
158	MI-387294J	IDLER PART
159	MI-404552J	IDLER (2) PART
160	ML-391745J3	ARM DAMPER
161	ML-387350J1	ARM LID OPENER
162	ML-387423J	ARM LOADING BRAKE
163	ML-387277J3	ARM REVIEW PART
164	ML-387402J1	LEVER TRIGGER
165	ML-387316J	MAIN BRAKE (S) PART
166	ML-387318J	MAIN BRAKE (T) PART
167	ML-387321J	REVIEW BRAKE PART
168	ML-407119J	REVIEW BRAKE (3) PART
169	ML-387324J1	SLIDER BRAKE PART
170	ML-404567J1	SLIDER BRAKE (3) PART
171	ML-404944J	SLIDER TRIGGER (2)
172	MP-404852J	PINCH ROLLER (2) PART
173	MR-387406J	HOLDER THRUST WORM
174	MR-391968J	PULLEY TRIGGER (2)
175	MR-387286J1	ROLLER IMPEDANCE
176	MT-390954J1	DISK (2)PART
177	MT-404547J	DISK (3) PART
178	MZ-387298J3	DISK CLUTCH PART
179	MZ-404577J	DISK CLUTCH (2) PART
180	MZ-387331J	GEAR CAM SLIDER
181	MZ-404538J	GEAR CAM SLIDER (3)
182	MZ-387335J	GEAR EJECT
183	MZ-387333J	GEAR FRONT LOADING
184	MZ-404995J	GEAR MID PART
185	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
186	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
187	MZ-387332J	GEAR WORM WHEEL
188	MZ-401686J1	GEAR WORM (2)

※ Parts list for HEAD DRUM, MECHA. (1) and MECHA. (2) BLOCK refer to 6-1. EA/EDI/EM list (P24 to P28).

7. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1150Q600C	FRPC (#) MAIN (PAL) BLKF440EK/FR
1B	BA-V1152Q600A	FRPC (#) MAIN (PAL) BLKF480EK-V/FR
1C	BA-V1152A600F	PC (#) MAIN (PAL) BLK F490ES
2A	BA-V1132A610F	PC PRE AMP BLK F400EA [F440EK]
2B	BA-V1132A610H	PC PRE AMP BLK F430ES [F480EK,F490ES]
3A	BA-V1146Q640B	FRPC OPERATION (A) BLK F440EK/FR
3B	BA-V1152Q630A	FRPC—OPERATION G BLK F480EK-V/FR
3C	BA-V1152A630G	PC—OPERATION (G) BLK F490ES
4A	BA-V1130A500B	PC POWER BLK F200EK [F440EK]
4B	BA-V1135A500C	PC (#) POWER EOG BLK F480EK-V [F480EK]
4C	BA-V1130A500A	PC POWER BLK F220EDG [F490ES]

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARD.

- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD
- VIF UNIT

PC (#) OPERATION P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION-A P.C BOARD
- OPERATION-B P.C BOARD

- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD
- DIODE P.C BOARD

8. MAIN (A) P.C BOARD

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
DL500	EH-390730J	DL EFD-JF124A13J
D501	EH-394838J	DL ADL-FN1344Q [480EK,490ES]
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131 [ES]
D4	ED-307572	D SILICON H 1SS131 [ES]
D8	ED-403732J	D ZENER H UTZJ5.6A
D12	ED-405603J	D ZENER H MTZJ10B T26 [480EK]
D13	ED-405604J	D ZENER H MTZJ4.3C T26 [480EK]
D101	ED-403725J	D ZENER H UTZJ12C [440EK]
D102	ED-404170J	D ZENER H MTZJ2.0A T26 [480EK]
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D310	ED-307572	D SILICON H 1SS131 [480EK,490ES]
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131 [480EK/490ES]
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D509	ED-307572	D SILICON H 1SS131
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR202	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [480EK]
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP [EK]
IC102	EI-394861J	IC LVA521S-2 [EK]
IC103	EI-403964J	IC NJM2245L [EK]
IC201	EI-400756J	IC NJM4558L-B
IC301A	EI-408849J	IC MN675201 XDL JFLSYP1 [440EK]
IC301B	EI-408850J	IC MN675201 XDJ JFXSYP1 [480EK,490ES]
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N
IC304	EI-360586	IC LA6358S
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992

Ref.No.	Part No.	Description
IC402	EI-373981J1	IC BA10393N
IC403	EI-356457	IC BU4013B
L1	EO-390998J	COIL FIX 1 LAP02 F05 R68K [EK]
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
L302	EO-345881	COIL FIX 1 EL0606SKI 101J
L303	EO-354600	COIL FIX 1 LAP02 F05 101K
L401	EO-354600	COIL FIX 1 LAP02 F05 101K
L402	EO-357508	COIL FIX 1 LAP02 F05 151K
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K
L404	EO-345880	COIL FIX 1 EL0606SKI 820J
L405	EO-354600	COIL FIX 1 LAP02 F05 101K
L406	EO-354600	COIL FIX 1 LAP02 F05 101K
L410	EO-345874	COIL FIX 1 EL0606SKI 330J
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L472	EO-345880	COIL FIX 1 EL0606SKI 820J
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K
L500	EO-345880	COIL FIX 1 EL0606SKI 820J
L501	EO-353900	COIL FIX 1 LAP02 F05 150K
L502	EO-345880	COIL FIX 1 EL0606SKI 820J [480EK,490ES]
L503	EO-353900	COIL FIX 1 LAP02 F05 150K [480EK,490ES]
L504	EO-353900	COIL FIX 1 LAP02 F05 150K [480EK,490ES]
L505	EO-345880	COIL FIX 1 EL0606SKI 820J
L506	EO-345880	COIL FIX 1 EL0606SKI 820J
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
L509	EO-345880	COIL FIX 1 EL0606SKI 820J
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K
L570	EO-345880	COIL FIX 1 EL0606SKI 820J
L590	EO-387802J	COIL FIX 1 EL0405SKI 330K [480EK,490ES]
MD1A	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]
MD1B	BV-403411J	RF CONVERTER MDLK6B734A ES [ES]
PJ101A	EJ-405226J	PIN JACK T6572-ABBB YLW.RED 2P [EK]
PJ101B	EJ-387614J	PIN J T6353-ABCB YL BK 4P [ES]
PJ102	EJ-387613J	SOCKET M1812 21P [EK]
PJ103	EJ-405225J	PIN J JPJ1018-01-030 WHITE 1P [EK]
R214	ER-403405J	R OMF H S12 FS 1W R75J
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-375777	TR 2SC2926S P,Q
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-353899	TR 2SA1317 S,T,U [ES]
TR5	ET-353899	TR 2SA1317 S,T,U [ES]
TR7	ET-353899	TR 2SA1317 S,T,U [ES]
TR8	ET-354414	TR DTC144ES [ES]
TR9	ET-354414	TR DTC144ES [ES]
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U
TR15	ET-353897	TR DTC114ES
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V
TR19	ET-354414	TR DTC144ES [EK]
TR20	ET-405622J	TR 2SD2061 E,F [480EK,490ES]
TR101	ET-354414	TR DTC144ES
TR102	ET-356336	TR DTA114ES
TR103	ET-354414	TR DTC144ES
TR104	ET-353899	TR 2SA1317 S,T,U
TR105	ET-353899	TR 2SA1317 S,T,U
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V
TR108	ET-356336	TR DTA114ES [EK]
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
TR110	ET-353899	TR 2SA1317 S,T,U [480EK]
TR202	ET-356336	TR DTA114ES
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR205	ET-388338J	TR 2SB1425 S,E
TR210	*ET-405622J	TR 2SD2061 E,F
TR301	ET-354414	TR DTC144ES
TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
TR303	ET-363953	TR DTA114TS [ES]
TR304	ET-354415	TR DTA144ES
TR305	ET-354414	TR DTC144ES
TR306	ET-354414	TR DTC144ES
TR307	ET-373985	TR DTA144TS
TR308	ET-373985	TR DTA144TS
TR309	ET-373985	TR DTA144TS
TR310	ET-354414	TR DTC144ES
TR313	ET-354414	TR DTC144ES
TR401	ET-356336	TR DTA114ES
TR402	ET-354414	TR DTC144ES
TR404	ET-354364	TR DTC143TS
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-354414	TR DTC144ES
TR409	ET-360399	TR DTC114TS
TR410	ET-354414	TR DTC144ES
TR411	ET-360399	TR DTC114TS
TR413	ET-354415	TR DTA144ES
TR414	ET-388338J	TR 2SB1425 S,E
TR415	ET-353899	TR 2SA1317 S,T,U
TR417	ET-360399	TR DTC114TS
TR420	ET-354414	TR DTC144ES
TR421	ET-364040	TR UN421D
TR423	ET-356336	TR DTA114ES
TR424	ET-388338J	TR 2SB1425 S,E
TR425	ET-354414	TR DTC144ES [480EK,490ES]
TR470	ET-353899	TR 2SA1317 S,T,U
TR471	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353897	TR DTC114ES
TR502	ET-360646	TR DTA143ES [480EK,490ES]
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR508	ET-356336	TR DTA114ES
TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR572	ET-354414	TR DTC144ES
TR573	ET-354414	TR DTC144ES
VR301	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
VR401	EV-405657J	R S-FIX H T05 KVSF637T 0.1W103
VR402	EV-404300J	R S-FIX H T05 KVSF637T 0.1W472
VR403	EV-405659J	R S-FIX H T05 KVSF637T 0.1W682
VR404A	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333 [EK]
VR404B	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223 [ES]
WF201	EW-404138J1	CORD KX MA-POW L=225 12P
X301	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ
1A	BV-403238J1	VIF UNIT KX EK [EK]
1B	BV-403242J1	VIF UNIT KX ES [ES]
2A	EE-387607J1	TV TUNER TERB1-008B EK [EK]
2B	EE-387603J1	TV TUNER TERE1-019B EO [ES]
3A	SP-404784J	PANEL REAR JACK EK (B) [EK]
3B	SP-388306J	PANEL REAR JACK ES [ES]

9. MAIN (B) P.C BOARD

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D801	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131 [480EK,490ES]
D902	ED-307572	D SILICON H 1SS131 [480EK,490ES]
FL801A	EO-388362J	COIL OSC 1 V1102 [440EK]
FL801B	EO-388363J	COIL OSC 1 V1105-1 [480EK,490EK]
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC702	EI-200573	IC TC4053BP [480EK,490ES]
IC801	EI-388360J	IC BA7765AS
IC901	EI-386468J	IC BA3308 [480EK,490ES]
IC902	EI-310036	IC TC4066BP [480EK,490ES]
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [480EK,490ES]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [480EK,490ES]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L901	EO-345881	COIL FIX 1 EL0606SKI 101J [480EK,490ES]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-389803J	TR 2SA933S R,S
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [490ES]
TR901	ET-354414	TR DTC144ES [480EK,490ES]
TR902	ET-354414	TR DTC144ES [480EK,490ES]
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR904	ET-389803J	TR 2SA933S R,S [480EK,490ES]
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802A	EV-403968J	R S-FIX V T05EVNDCAA03 0.1W473 [440EK]
VR802B	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104 [480EK,490ES]
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

10. PRE AMP P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D101	ED-405247J	D ZENER H MTZJ2.7A T26 [F490ES]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F490ES]
IC1	EI-387586J	IC BA7244BS
L1	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-345880	COIL FIX 1 EL0606SKI 820J
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L11	EO-345880	COIL FIX 1 EL0606SKI 820J
L12	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L13	EO-381195J	COIL FIX 1 EL0405SKI 331K
L14	EO-376607	COIL FIX 1 LF-5.0S F05 181K
L15	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L16	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F490ES]
PS1	EJ-403389J	SOCKET HOUSING 5062-30-10-18
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-360399	TR DTC114TS
TR4	ET-360399	TR DTC114TS
TR5	ET-364040	TR UN421D
TR6	ET-354414	TR DTC144ES [EK]
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353897	TR DTC114ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-364040	TR UN421D
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-354364	TR DTC143TS [EK]
TR16	ET-354414	TR DTC144ES
TR17	ET-364040	TR UN421D
TR18	ET-353897	TR DTC114ES
TR19	ET-354414	TR DTC144ES
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [490ES]
VR1	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
VR4	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403386J1	CORD FFC P1.25 L=230 18P

11. OPERATION (A) P.C BOARD (F440EK)

Ref.No.	Part No.	Description
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403278J	D ZENER H UTZJ7.5B
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D31	ED-307572	D SILICON H 1SS131
D42	ED-307572	D SILICON H 1SS131
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IC1	EI-408391J1	IC UPD75217CW-146 JBXOPP2
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J2	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-408404J	SW TACT EVQ 235 07K T05
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

12. OPERATION (G) - A P.C BOARD (480EK/490ES)

Ref.No.	Part No.	Description
D2	ED-307572	D SILICON H 1SS131 [EK]
D5	ED-307572	D SILICON H 1SS131
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403731J	D ZENER H UTZJ8.2C
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D28	ED-307572	D SILICON H 1SS131
D32	ED-307572	D SILICON H 1SS131 [EK]
D42	ED-307572	D SILICON H 1SS131
D43	ED-307572	D SILICON H 1SS131 [ES]
D45	ED-307572	D SILICON H 1SS131
D46	ED-307572	D SILICON H 1SS131
D47	ED-307572	D SILICON H 1SS131
D48	ED-307572	D SILICON H 1SS131
D49	ED-307572	D SILICON H 1SS131 [EK]
FL1A	EM-408395J	IND FL FV562G CHARACTER [EK)
FL1B	EM-403367J	IND FL FV506G CHARACTER [ES]
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IC1	EI-408397J	IC UPD75217CW-147 JFXOPP1
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PJ1	EJ-408399J	PHONE J 2P YKB21-5165 3.5
PJ2	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW10	ES-349474	SW TACT SKHHAM004A
SW11	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
SW13	ES-349474	SW TACT SKHHAM004A
SW14	ES-349474	SW TACT SKHHAM004A
SW15	ES-349474	SW TACT SKHHAM004A [EK]
SW16	ES-349474	SW TACT SKHHAM004A
SW17	ES-349474	SW TACT SKHHAM004A
SW18	ES-349474	SW TACT SKHHAM004A
SW19	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

13. OPERATION (G) - B P.C BOARD (490EK/ 490ES)

Ref.No.	Part No.	Description
PH1	ET-381637J2	DETECTOR GP1U521X
SW3	ES-349474	SW TACT SKHHAM004A

14. VIF UNIT (EK,ES)

Ref.No.	Part No.	Description
CF1A	EH-714628	FILTER SAW SAF39.5MZ70Z [EK]
CF1B	EH-714627	FILTER SAW SAF38.9MW70Z [ES]
CF2	EH-373921	FILTER CE SFE6.0MB
CF3	EH-373919	FILTER CE TPS6.0MB
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3	EO-725954J	COIL SIF DET 6F16263A3
L4	EO-714614	COIL RF 6F16115B1
L5	EO-714610	COIL RF 6F16113B1
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L7	EO-387798J	COIL FIX 1 EL0405SKI 150K
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
VR51	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223

15. POWER P.C BOARD (F440EK,F490ES)

Ref.No.	Part No.	Description
C1	EC-406634J	C EC V SXE12 222M 25.0DC
C2	EC-363490	C EC V CUT SME 222M 16.0DC
C3	EC-406635J	C EC V SXE16 222M 35.0DC
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	**ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-511907	D SILICON 1N4002 100/1.0A
D7	*ED-511907	D SILICON 1N4002 100/1.0A
D8	*ED-511907	D SILICON 1N4002 100/1.0A
D9	*ED-511907	D SILICON 1N4002 100/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A
D11	*ED-511907	D SILICON 1N4002 100/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A
D13	ED-405373J	D ZENER H MTZJ16A T26
D14	ED-404032J	D ZENER H UTZJ39A
D15	ED-405524J	D ZENER H MTZJ36A T26
D16	*ED-404029J	D ZENER H UTZJ10B T26
D17	ED-511907	D SILICON 1N4002 100/1.0A
D18	ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR4	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-366365	TR 2SB1185 E,F
TR3	*ET-405622J	TR 2SD2061 E,F
TR4	*ET-405622J	TR 2SD2061 E,F
TR5	*ET-405622J	TR 2SD2061 E,F
TR6	*ET-405622J	TR 2SD2061 E,F
TR7	*ET-366365	TR 2SB1185 E,F

16. POWER SUPPLY (1) P.C BOARD (F480EK)

Ref.No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-408377J	C EC V CUT KMG 222M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403880J	C EC V T05 LXF8 221M 25.0DC
C23	EC-406639J	C EC V T05 LXF6 330M 63.0DC
C24	EC-406639J	C EC V T05 LXF6 330M 63.0DC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-511907	D SILICON 1N4002 100/1.0A
D18	*ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-396060J	D ZENER H HZS18-2
D28	ED-391005J	D ZENER H HZS12B1
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D57	ED-405264J	D ZENER H UTZJ10C
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-393769J	COIL FIX 1 LHL06TB T05 471K
R14	ER-333091	R OMF H S20 FS 2W 360J
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V

17. POWER SUPPLY (2) P.C BOARD (F480EK)

Ref.No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-387919J	D ZENER H HZS6A1L
D56	ED-396057J	D ZENER H HZS16-2
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	*ET-404195J	TR 2SC4486 S,T T05
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-353899	TR 2SA1317 S,T,U
TR50	ET-353897	TR DTC114ES

18. DIODE P.C BOARD (F480EK)

Ref.No.	Part No.	Description
D14	*ED-379298	D SILICON DBA20B 100/2.0A

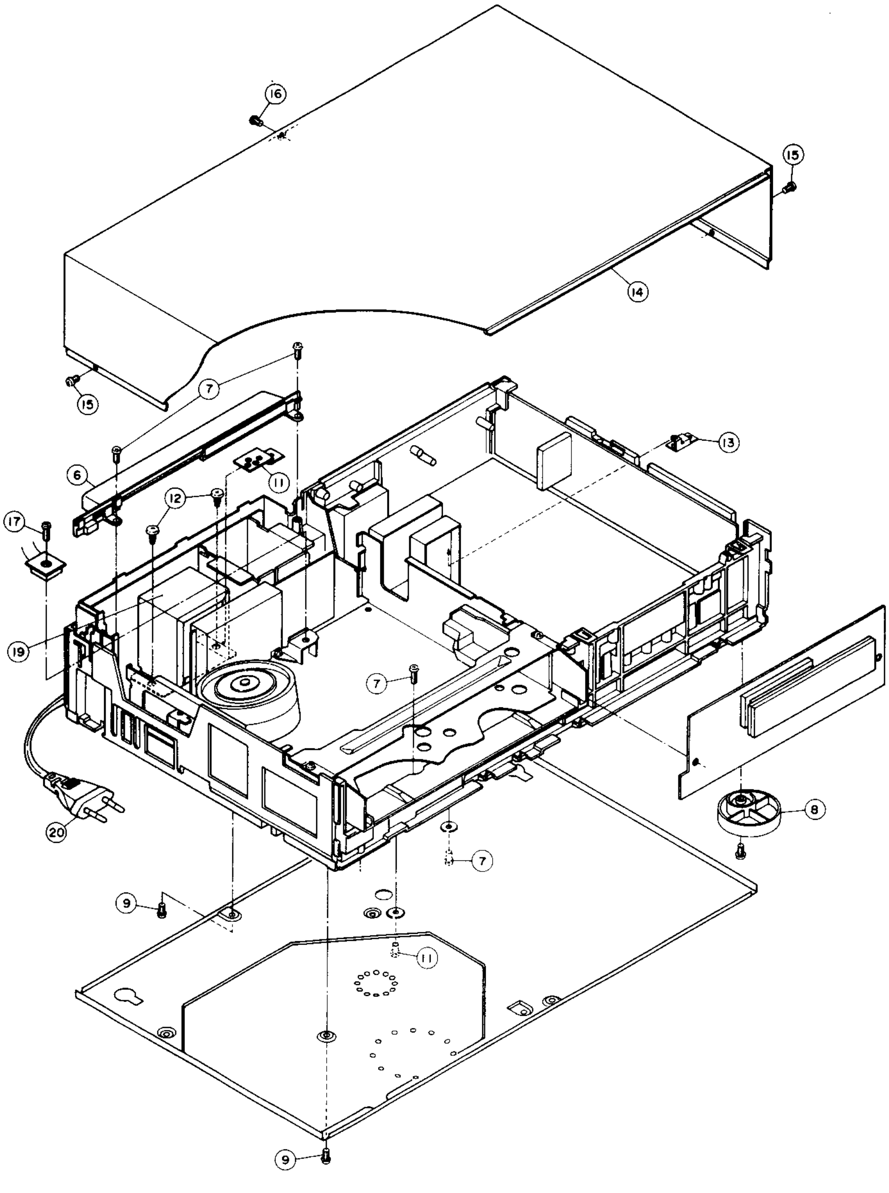
19. VPST PDC P.C BLOCK (F480EK ONLY)

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D101	ED-307572	D SILICON H 1SS131
D201	ED-307572	D SILICON H 1SS131
FL101	EH-394684J	FILTER EMI ZBF503D-00TA T05
IB101	EH-383056J	COMP R RGLE4X 103J
IB102	EH-386637J	COMP R RGLE8X 103J
IC101	EI-410521J	IC UPD75218CW-014 JXPDC1
IC102	EI-405224J	IC ST24C02
IC103	EI-405224J	IC ST24C02
IC104	EI-408434J	IC MV1815-1BA
IC105	EI-410125J	IC V53C464AP-80
IC106	EI-401050J	IC LVA523SA2
IC107	EI-394680J	IC AN3171K
IC108	EI-387019J	IC MC1377P
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L101	EO-345865	COIL FIX 1 EL0606SKI 100J
L102	EO-345865	COIL FIX 1 EL0606SKI 100J
L121	EO-345865	COIL FIX 1 EL0606SKI 100J
L151	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L152	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L153	EO-345880	COIL FIX 1 EL0606SKI 820J
L154	EO-410099J	COIL FIX 1 SPT0203SA T26 470J
L155	EO-345865	COIL FIX 1 EL0606SKI 100J
L201	EO-345865	COIL FIX 1 EL0606SKI 100J
L202	EO-345865	COIL FIX 1 EL0606SKI 100J
L203	EO-345875	COIL FIX 1 EL0606SKI 390J
L204	EO-345873	COIL FIX 1 EL0606SKI 270J
L206	EO-345871	COIL FIX 1 EL0606SKI 180J
L207	EO-345874	COIL FIX 1 EL0606SKI 330J
L208	EO-345874	COIL FIX 1 EL0606SKI 330J
L251	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-354415	TR DTA144ES
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V
TR151	ET-397160J	TR 2SC3330 R,S,T,U,V
TR152	ET-353899	TR 2SA1317 S,T,U
TR153	ET-353899	TR 2SA1317 S,T,U
TR154	ET-397160J	TR 2SC3330 R,S,T,U,V
TR155	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	ET-353899	TR 2SA1317 S,T,U
TR208	ET-353899	TR 2SA1317 S,T,U
TR251	ET-397160J	TR 2SC3330 R,S,T,U,V
TR252	ET-353899	TR 2SA1317 S,T,U
TR253	ET-353899	TR 2SA1317 S,T,U
X101	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X102	EI-408433J	OSC X'TAL HC-43/U 27750KHZ
X103	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ

20. JOG/SHUTTLE P.C BOARD (480EK,490ES)

Ref.No.	Part No.	Description
SW1	ES-403377J	SW ROTARY ENCODER SRGPHJ

FINAL ASSEMBLY BLOCK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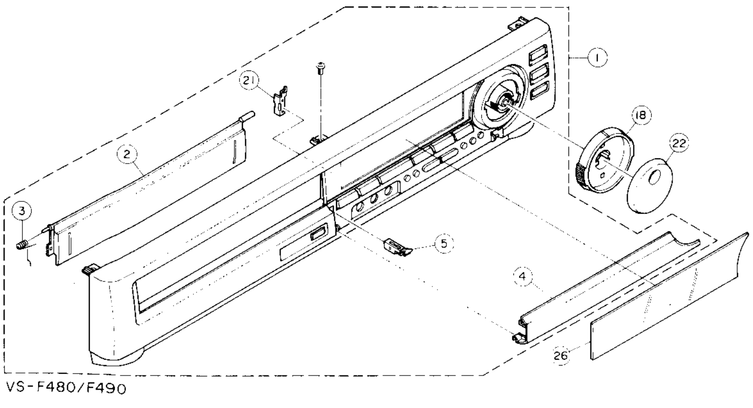
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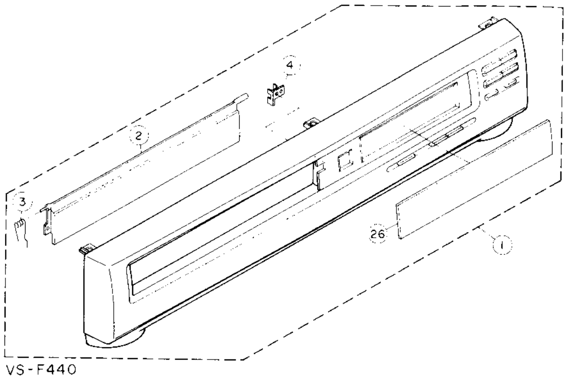
VS-F480/F490



VS-F440

21. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1A	BD-409284J	PANEL FRONT VS-F440EOH PART [440EK]
1B	BD-409123J1	PANEL FRONT VS-F480EK-V PART [480EK]
1C	BD-409128J1	PANEL FRONT VS-F490ES PART [490ES]
2A	SE-409197J	MASK CASSETTE (J) VS-F440 (E2) [400EK]
2B	SE-409101J1	MASK CASSETTE VS-F480 (E) [480EK]
2C	SE-409104J1	MASK CASSETTE VS-F490 (E2) [490ES]
3	ZG-387370J	SP MASK
4A	SP-409166J	DOOR (E4) [480EK]
4B	SP-409133J	DOOR (E3) [490ES]
5	SZ-404290J	MINI SIDE LOCK [480EK,490ES]
6	SC-387353J	COVER TRANS
7	ZS-378341	PLX BID30X12STL CMT
8	SA-387507J	FOOT SX
9	ZS-358936	ST BID30X06STL CMT
11	ZG-387505J	PLATE EARTH
12	ZS-373962	PLX BID40X10STL CMT
13	ZG-387354J	PLATE EARTH (2)
14	SP-407479J	COVER UPPER JX
15	ZS-385611J	DT BID26X06STL BNI
16	ZS-391046J	PLX BID26X10STL BNI
17	ZS-659046	PAN26X10STL CMT
18	SK-407561J	KNOB SHUTTLE [480EK,490ES]
19A	*BT-403872J	TRANS POW V1130 EK [440EK]
19B	*BT-403883J	TRANS POW V1130 EOG-V [480EK]
19C	*BT-410489J	TRANS POW V1130 ES [490ES]
20A	*EW-404001M	AC CORD 200 VCTFK WITH TUBE B [EK]
20B	*EW-404002M	AC CORD 200 SE-1 WITH TUBE E [ES]
21A	SZ-401874J	STOPPER MASK [440EK]
21B	SZ-407583J	STOPPER MASK (2) [480EK,490ES]
22	SK-407562J	KNOB JOG [480EK,490ES]

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

22. ACCESSARY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1038A010A	REMOCON BLK RC-V250E [440EK]
2B	AV-B1040A010E	REMOCON BLK RC-V451E [480EK]
2C	AV-B1043A010E	REMOCON BLK RC-V452E [490ES]

6-3. VS-F440EDG/EO/EOG-V/EOH, F455EOH, F480EOG-V, F490EO/EOH, F497EOH

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	AV-B1038A010A	REMOCON BLK RC-V250E [440EDG/EO/EOH]
2	AV-B1039A010A	REMOCON BLK RC-V251G [440EOG]
3	AV-B1042A010C	REMOCON BLK RC-V252E (G) [450/455EOH]
4	AV-B1040A010F	REMOCON BLK RC-V451G [480EOG]
5	AV-B1043A010E	REMOCON BLK RC-V452E [490EO/EOH,497EOH]
6	BB-V1130A020H	MECHA DECK BLK F260EA
7	BB-V1130A020C	MECHA DECK BLK F410EK
8	BL-V1102A140A	ARM LOADING BLK 425EA
9	BL-387458J2	CAPSTAN BRAKE PART
10	BL-V1123A050A	TENSION ARM BLK F600EA
11	BL-V1102A050A	TENSION ARM BLK 425EA
12	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
13	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
14	BM-387503J	MOTOR PART [LOADING MOTOR]
15	*BT-410491J	TRANS POW V1130 EDG [EDG)
16	*BT-403873J	TRANS POW V1130 EO [EO,440-455EOH]
17	*BT-403883J	TRANS POW V1130 EOG-V [EOG,490-497EOH]
18	BV-V1102A150A	CASSETTE LOAD BLK 425EA
19	BV-V1102A070A	LEADER S BLK 425EA
20	BV-V1102A080A	LEADER T BLK 425EA
21	BV-V1123A410B	LOWER DRUM BLK X450EGN
22	BV-403409J	RF CONVERTER MDLK6D755A EO [EO/EOG/EOH]
23	BV-403408J	RF CONVERTER MDLK6E753A EDG [EDG]
24	BV-V1123A420B	UPPER DRUM BLK X450EGN
25	BV-403237J	VIF UNIT KX EDG [EDG]
26	BV-403241J1	VIF UNIT KX EOG [EO/EOG]
27	BV-403240J1	VIF UNIT KX EOH [EOH]
28	EA-387496J	PC (#) SENSOR
29	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
30	EC-363490	C EC V CUT SME 222M 16.0DC
31	EC-406634J	C EC V SXE12 222M 25.0DC
32	EC-406635J	C EC V SXE16 222M 35.0DC
33	ED-390011J	D LED GL451 INFRARED [D1]
34	ED-390012J	D LED GL4800 INFRARED [D2]
35	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
36	*ED-379298	D SILICON DBA20B 100/2.0A
37	ED-366443	D SILICON H MA700FA5 F10
38	ED-307572	D SILICON H 1SS131
39	ED-511907	D SILICON 1N4002 100/1.0A
40	ED-391005J	D ZENER H HZS12B1
41	ED-396057J	D ZENER H HZS16-2 [EOH]
42	ED-396060J	D ZENER H HZS18-2
43	ED-397233J	D ZENER H HZS5C3
44	ED-387919J	D ZENER H HZS6A1L
45	ED-405603J	D ZENER H MTZJ10B T26 [EO/EOG/EOH]
46	ED-405373J	D ZENER H MTZJ16A T26
47	ED-404170J	D ZENER H MTZJ2.0A T26 [EOG/EOH]
48	ED-405247J	D ZENER H MTZJ2.7A T26 [F480-F497]
49	ED-403267J	D ZENER H MTZJ3.3B T26

Ref.No.	Part No.	Description
50	ED-405524J	D ZENER H MTZJ36A T26
51	ED-405604J	D ZENER H MTZJ4.3C T26 [EO/EOG/EOH]
52	ED-403724J	D ZENER H UTZJ10A
53	*ED-404029J	D ZENER H UTZJ10B T26
54	ED-405264J	D ZENER H UTZJ10C
55	ED-403726J	D ZENER H UTZJ30B [EOG]
56	ED-404032J	D ZENER H UTZJ39A
57	ED-405446J	D ZENER H UTZJ5.6B T26
58	ED-403729J	D ZENER H UTZJ5.6C
59	ED-403730J	D ZENER H UTZJ6.2A [EOG]
60	ED-403278J	D ZENER H UTZJ7.5B
61	ED-404086J	D ZENER H UTZJ7.5C
62	ED-403731J	D ZENER H UTZJ8.2C [EOH]
63	ED-403279J	D ZENER H UTZJ9.1B
64	EE-408471J	TV TUNER ENV-77890F2 SK [EDG]
65	EE-387604J2	TV TUNER TERE1-007C EOG [EO/EOG]
66	EE-390143J2	TV TUNER TERE3-001C EOH [EOH]
67	EH-394838J	DL ADL-FN1344Q [490EOH]
68	EH-390730J	DL EFD-JF124A13J
69	EH-368816	FILTER CE SAF38.0MZA70Z
70	EH-730625J	FILTER CE SAF38.9MZW70Z
71	EH-780128	FILTER CE SFE 6.5MB
72	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EDG/EOG]
73	EH-373920	FILTER CE SFE5.5MB
74	EH-368827	FILTER CE SFS5.5MD 5.500MHZ
75	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ
76	EH-373918	FILTER CE TPS5.5MB
77	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ
78	EH-376338	FILTER CE TPS6.5MB
79	EH-394684J	FILTER EMI ZBF503D-00TA T05
80	EI-394680J	IC AN3171K
81	EI-373981J1	IC BA10393N
82	EI-373980	IC BA15218N
83	EI-386468J	IC BA3308
84	*EI-381575J	IC BA6121
85	EI-353421	IC BA6229
86	EI-366892	IC BA7025L [EDG/EOG]
87	EI-387586J	IC BA7244BS
88	EI-388360J	IC BA7765AS
89	EI-356457	IC BU4013B
90	EI-360586	IC LA6358S
91	EI-403234J1	IC LA7391A
92	EI-394856J	IC LC8992
93	EI-394861J	IC LVA521S-2
94	EI-401050J	IC LVA523SA2
95	EI-389622J	IC L5631
96	EI-387019J	IC MC1377P
97	EI-403469J	IC MM1068XS
98	EI-408850J	IC MN675201 XDJ JFXSYP1
99	EI-408849J	IC MN675201 XDL JFLSYP1
100	EI-408434J	IC MV1815-1BA
101	EI-368809	IC M51496P
102	EI-403964J	IC NJM2245L [EOG/EOH]
103	EI-400756J	IC NJM4558L-B
104	EI-373955	IC S-8053ALR
105	EI-385958J	IC SAA4700
106	EI-408393J	IC ST24C01B1
107	EI-405224J	IC ST24C02
108	EI-310036	IC TC4066BP
109	EI-405722J	IC UPD6450CX-515
110	EI-408391J1	IC UPD75217CW-146 JBXOPP2

Ref.No.	Part No.	Description
111	EI-408397J	IC UPD75217CW-147 JFXOPP1
112	EI-410521J	IC UPD75218CW-014 JXPDC1
113	EI-410125J	IC V53C464AP-80
114	EI-403467J	OSC CE CSB500F40 15.680KHZ
115	EI-368829	OSC CE CSB512P
116	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
117	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
118	EI-408433J	OSC X'TAL HC-43/U 27750KHZ
119	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
120	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
121	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ
122	EI-381632J	OSC X'TAL 86686 4.433619MHZ
123	EM-401077J	IND FL FV496G CHARACTER
124	EM-403367J	IND FL FV506G CHARACTER
125	EO-388362J	COIL OSC 1 V1102
126	EO-388363J	COIL OSC 1 V1105-1
127	EO-388349J	COIL OSC 1 V1105-2 [F480-F497]
128	ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
129	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
130	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
131	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
132	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
133	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
134	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [EO/EOG/EOH]
135	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
136	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
137	ER-403405J	R OMF H S12 FS 1W R75J
138	ES-373099	SW LEAF MTS10110MPC1
139	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
140	ES-403377J	SW ROTARY ENCODER SRGPHJ
141	ES-408404J	SW TACT EVQ 235 07K T05 [RESET]
142	ES-349474	SW TACT SKHHAM004A
143	ET-381637J2	DETECTOR GP1U521X
144	ET-403420J	DETECTOR SG-105LF [PH1][PH2]
145	ET-724885J	TR CHIP RT1N141C [EOG]
146	ET-713614	TR CHIP 2SA1235 E,F
147	ET-725820J	TR CHIP 2SC2735J
148	ET-356336	TR DTA114ES
149	ET-363953	TR DTA114TS [490EOH]
150	ET-360646	TR DTA143ES [490EOH]
151	ET-354415	TR DTA144ES
152	ET-373985	TR DTA144TS
153	ET-353897	TR DTC114ES
154	ET-360399	TR DTC114TS
155	ET-354364	TR DTC143TS
156	ET-354414	TR DTC144ES
157	ET-361490	TR PHOTO PN268 [TR1]
158	ET-390010J	TR PHOTO PT4800 [TR2]
159	ET-390009J	TR PHOTO PT493F [TR4]
160	ET-364040	TR UN421D
161	ET-353899	TR 2SA1317 S,T,U
162	*ET-366365	TR 2SB1185 E,F
163	ET-388338J	TR 2SB1425 S,E
164	ET-356817	TR 2SB891 Q,R
165	ET-375777	TR 2SC2926S P,Q
166	ET-397160J	TR 2SC3330 R,S,T,U,V
167	*ET-404195J	TR 2SC4486 S,T T05
168	ET-354083	TR 2SD1189 Q,R
169	ET-366168	TR 2SD1292 Q,R [EOG]
170	*ET-381175J	TR 2SD1856
171	ET-405622J	TR 2SD2061 E,F [EO/EOG/EOH]
172	ET-370819	TR.CHIP 2SC3052
173	EX-405691J	THERMISTOR NTH5D332KA
174	HE-390013J	HEAD E HVFME0020A
175	HR-405340J	HEAD COMBO HVMZA1121A
176	MB-387289J	BELT CAPSTAN
177	MB-407117J	BELT CAPSTAN (3)
178	MI-387294J	IDLER PART
179	MI-404552J	IDLER (2) PART
180	ML-391745J3	ARM DAMPER
181	ML-387350J1	ARM LID OPENER
182	ML-387423J	ARM LOADING BRAKE
183	ML-387277J3	ARM REVIEW PART
184	ML-387402J1	LEVER TRIGGER
185	ML-387316J	MAIN BRAKE (S) PART
186	ML-387318J	MAIN BRAKE (T) PART
187	ML-387321J	REVIEW BRAKE PART
188	ML-407119J	REVIEW BRAKE (3) PART
189	ML-387324J1	SLIDER BRAKE PART
190	ML-404567J1	SLIDER BRAKE (3) PART
191	ML-404944J	SLIDER TRIGGER (2)
192	MP-404852J	PINCH ROLLER (2) PART
193	MR-387406J	HOLDER THRUST WORM
194	MR-391968J	PULLEY TRIGGER (2)
195	MR-387286J1	ROLLER IMPEDANCE
196	MT-390954J1	DISK (2) PART
197	MT-404547J	DISK (3) PART
198	MZ-387298J3	DISK CLUTCH PART
199	MZ-404577J	DISK CLUTCH (2) PART
200	MZ-387331J	GEAR CAM SLIDER
201	MZ-404538J	GEAR CAM SLIDER (3)
202	MZ-387335J	GEAR EJECT
203	MZ-387333J	GEAR FRONT LOADING
204	MZ-404995J	GEAR MID PART
205	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
206	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
207	MZ-387332J	GEAR WORM WHEEL
208	MZ-401686J1	GEAR WORM (2)

※ Parts list for HEAD DRUM, MECHA. (1) and MECHA. (2) BLOCK refer to 6-1. EA/EDI/EM list (P24 to P28).

7. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1150A600B	PC (#) MAIN (PAL) BLK F440EDG
1B	BA-V1150Q600F	FRPC (#) MAIN (PAL) BLKF440EO/FR
1C	BA-V1150Q600G	FRPC (#) MAIN (PAL) BLKF440EOG-V/ FR
1D	BA-V1150A600H	PC (#) MAIN (PAL) BLK F440EOH [440/450EOH]
1E	BA-V1150A600J	PC (#) MAIN (PAL) BLK F455EOH
1F	BA-V1152Q600D	FRPC (#) MAIN (PAL) BLKF480EOG-V/ FR
1G	BA-V1152Q600C	FRPC (#) MAIN (PAL) BLKF490EO/FR
1H	BA-V1152A600E	PC (#) MAIN (PAL) BLK F490EOH
1J	BA-V1152A600G	PC (#) MAIN (PAL) BLK F497EOH [497EOH]
2A	BA-V1132A615C	PC PRE AMP BLK F400EDI [440EDG/EO/EOG,440-455EOH]
2B	BA-V1132A610J	PC PRE AMP BLK F410EO [480EOG,490EO/EOH]
2C	BA-V1132A610G	PC PRE AMP BLK F410EM [497EOH]
3A	BA-V1146A635M	PC OPERATION (A) BLK F440EDG
3B	BA-V1146A640D	PC OPERATION (A) BLK F440EO
3C	BA-V1146A640E	PC OPERATION (A) BLK F440EOG-V
3D	BA-V1146A640F	PC OPERATION (A) BLK F440EOH
3E	BA-V1146A640M	PC OPERATION (A) BLK F455EOH
3F	BA-V1152Q630D	FRPC—OPERATION G BLK F480EOG-V/ FR
3G	BA-V1152Q630C	FRPC—OPERATION G BLK F490EO/FR
3H	BA-V1152A630E	PC—OPERATION (G) BLK F490EOH
3J	BA-V1152A630F	PC—OPERATION (G) BLK F497EOH
4A	BA-V1130A500A	PC POWER BLK F220EDG [EDG]
4B	BA-V1132A500A	PC (#) POWER EO BLK F200EO [EO]
4C	BA-V1135A500E	PC (#) POWER EOG BLK F300EOG-V [EOG]
4D	BA-V1132A500C	PC (#) POWER EO BLK F200EOH [440/450/455EOH]
4E	BA-V1135A500C	PC (#) POWER EOG BLK F480EK-V [490/497EOH]

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARD.

- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD
- VIF UNIT

PC (#) OPERATION P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION-A P.C BOARD
- OPERATION-B P.C BOARD

PC (#) POWER P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD
- DIODE P.C BOARD

8. MAIN (A) P.C BOARD (F440-F455)

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131 [EOH]
D6	ED-403731J	D ZENER H UTZJ8.2C [EOH]
D7	ED-307572	D SILICON H 1SS131 [EOH]
D8	ED-387919J	D ZENER H HZS6A1L
D9	ED-307572	D SILICON H 1SS131 [EO/EOG]
D10	ED-307572	D SILICON H 1SS131 [EO/EOG]
D12	ED-405603J	D ZENER H MTZJ10B T26 [EO/EOG/EOH]
D13	ED-405604J	D ZENER H MTZJ4.3C T26 [EO/EOG/EOH]
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D206	ED-307572	D SILICON H 1SS131 [EOG]
D207	ED-307572	D SILICON H 1SS131 [EOG]
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D210	ED-403726J	D ZENER H UTZJ30B [EOG]
D211	ED-403730J	D ZENER H UTZJ6.2A [EOG]
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131 [EO/EOG]
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D501	ED-307572	D SILICON H 1SS131
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131 [EO/EOG]
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D508	ED-307572	D SILICON H 1SS131
D509	ED-307572	D SILICON H 1SS131
DL500	EH-390730J	DL EFD-JF124A13J
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR202	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [EO/EOG/EOH]
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP
IC201	EI-400756J	IC NJM4558L-B
IC301	EI-408849J	IC MN675201 XDL JFLSYP1
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N

Ref.No.	Part No.	Description
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992
IC402	EI-373981J1	IC BA10393N
IC403	EI-356457	IC BU4013B
L1	EO-390999J	COIL FIX 1 LAP02 F05 R82K [EOH]
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
L302	EO-345881	COIL FIX 1 EL0606SKI 101J
L303	EO-354600	COIL FIX 1 LAP02 F05 101K
L401	EO-354600	COIL FIX 1 LAP02 F05 101K
L402	EO-357508	COIL FIX 1 LAP02 F05 151K
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K
L404	EO-345880	COIL FIX 1 EL0606SKI 820J
L405	EO-354600	COIL FIX 1 LAP02 F05 101K
L406	EO-354600	COIL FIX 1 LAP02 F05 101K
L410	EO-345874	COIL FIX 1 EL0606SKI 330J
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L472	EO-345880	COIL FIX 1 EL0606SKI 820J
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K
L480	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J [EOG]
L500	EO-345880	COIL FIX 1 EL0606SKI 820J
L501	EO-353900	COIL FIX 1 LAP02 F05 150K
L505	EO-345880	COIL FIX 1 EL0606SKI 820J
L506	EO-345880	COIL FIX 1 EL0606SKI 820J
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
L509	EO-345880	COIL FIX 1 EL0606SKI 820J
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K
L570	EO-345880	COIL FIX 1 EL0606SKI 820J
MD1A	BV-403408J	RF CONVERTER MDLK6E753A EDG [EDG]
MD1B	BV-403409J	RF CONVERTER MDLK6D755A EO [EO/EOG/EOH]
PJ101	EJ-387614J	PIN J T6353-ABCB YL BK 4P [EDG]
PJ102	EJ-387613J	SOCKET M1812 21P [EO/EOG/EOH]
R214	ER-403405J	R OMF H S12 FS 1W R75J
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-375777	TR 2SC2926S P,Q
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-353899	TR 2SA1317 S,T,U
TR5	ET-353899	TR 2SA1317 S,T,U
TR6	ET-353899	TR 2SA1317 S,T,U [EOH]
TR7	ET-353899	TR 2SA1317 S,T,U
TR8	ET-354414	TR DTC144ES
TR9	ET-354414	TR DTC144ES
TR10	ET-354414	TR DTC144ES [EOH]
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U [EXCEPT EOH]
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
TR15	ET-353897	TR DTC114ES
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V
TR19	ET-354414	TR DTC144ES
TR20	ET-405622J	TR 2SD2061 E,F [EO/EOG/EOH]
TR101	ET-354414	TR DTC144ES
TR102	ET-356336	TR DTA114ES
TR103	ET-354414	TR DTC144ES
TR104	ET-353899	TR 2SA1317 S,T,U
TR105	ET-353899	TR 2SA1317 S,T,U
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V
TR108	ET-356336	TR DTA114ES [EO/EOG/EOH]
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-356336	TR DTA114ES
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR205	ET-388338J	TR 2SB1425 S,E
TR209	ET-354414	TR DTC144ES [EOG]

Ref.No.	Part No.	Description
TR210	ET-405622J	TR 2SD2061 E,F [EOH]
TR211	ET-356336	TR DTA114ES [EOG]
TR301	ET-354414	TR DTC144ES
TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
TR304	ET-354415	TR DTA144ES
TR305	ET-354414	TR DTC144ES
TR306	ET-354414	TR DTC144ES
TR307	ET-373985	TR DTA144TS
TR308	ET-373985	TR DTA144TS
TR309	ET-373985	TR DTA144TS
TR310	ET-354414	TR DTC144ES
TR313	ET-354414	TR DTC144ES [EO/EOG]
TR401	ET-356336	TR DTA114ES
TR402	ET-354414	TR DTC144ES
TR404	ET-354364	TR DTC143TS
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-354414	TR DTC144ES
TR409	ET-360399	TR DTC114TS
TR410	ET-354414	TR DTC144ES
TR411	ET-360399	TR DTC114TS
TR413	ET-354415	TR DTA144ES
TR414	ET-388338J	TR 2SB1425 S,E
TR415	ET-353899	TR 2SA1317 S,T,U
TR417	ET-360399	TR DTC114TS
TR420	ET-354414	TR DTC144ES
TR421	ET-364040	TR UN421D
TR423	ET-356336	TR DTA114ES
TR424	ET-388338J	TR 2SB1425 S,E
TR470	ET-353899	TR 2SA1317 S,T,U
TR471	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353897	TR DTC114ES
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR508	ET-356336	TR DTA114ES
TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR513	ET-356336	TR DTA114ES [EXCEPT ES]
TR514	ET-354414	TR DTC144ES [EXCEPT ES]
TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR572	ET-354414	TR DTC144ES
TR573	ET-354414	TR DTC144ES
VR301	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
VR401	EV-405657J	R S-FIX H T05 KVSF637T 0.1W103
VR402	EV-404300J	R S-FIX H T05 KVSF637T 0.1W472
VR403	EV-405659J	R S-FIX H T05 KVSF637T 0.1W682
VR404	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
WF201	EW-404138J1	CORD KX MA-POW L=225 12P
X301	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ
1A	BV-403237J	VIF UNIT KX EDG [EDG]
1B	BV-403241J1	VIF UNIT KX EOG [EO/EOG]
1C	BV-403240J1	VIF UNIT KX EOH [EOH]
2A	EE-408471J	TV TUNER ENV-77890F2 SK [EDG]
2B	EE-387604J2	TV TUNER TERE1-007C EOG [EO/EOG]
2C	EE-390143J2	TV TUNER TERE3-001C EOH [EOH]
3A	SP-395563J	PANEL REAR JACK EDG (2) [EDG]
3B	SP-387357J	PANEL REAR JACK EK [EO/EOH]
3C	SP-388305J	PANEL REAR JACK EOG [EOG]

9. MAIN (A) P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131 [EOH]
D6	ED-403731J	D ZENER H UTZJ8.2C [EOH]
D7	ED-307572	D SILICON H 1SS131 [EOH]
D8	ED-387919J	D ZENER H HZS6A1L
D9	ED-307572	D SILICON H 1SS131 [EO/EOG]
D10	ED-307572	D SILICON H 1SS131 [EO/EOG]
D12	ED-405603J	D ZENER H MTZJ10B T26
D13	ED-405604J	D ZENER H MTZJ4.3C T26
D102	ED-404170J	D ZENER H MTZJ2.0A T26 [EOG/EOH]
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D206	ED-307572	D SILICON H 1SS131 [EOG]
D207	ED-307572	D SILICON H 1SS131 [EOG]
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D210	ED-403726J	D ZENER H UTZJ30B [EOG]
D211	ED-403730J	D ZENER H UTZJ6.2A [EOG]
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D310	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D501	ED-307572	D SILICON H 1SS131
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D508	ED-307572	D SILICON H 1SS131
D509	ED-307572	D SILICON H 1SS131
DL500	EH-390730J	DL EFD-JF124A13J
DL501	EH-394838J	DL ADL-FN1344Q [490EOH]
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR202	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP
IC102	EI-394861J	IC LVA521S-2
IC103	EI-403964J	IC NJM2245L [EOG/EOH]
IC201	EI-400756J	IC NJM4558L-B
IC301	EI-408850J	IC MN675201 XDJ JFXSYP1
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N
IC304	EI-360586	IC LA6358S
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992
IC402	EI-373981J1	IC BA10393N
IC403	EI-356457	IC BU4013B
L1	EO-390999J	COIL FIX 1 LAP02 F05 R82K [EOH]
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
L302	EO-345881	COIL FIX 1 EL0606SKI 101J
L303	EO-354600	COIL FIX 1 LAP02 F05 101K
L401	EO-354600	COIL FIX 1 LAP02 F05 101K
L402	EO-357508	COIL FIX 1 LAP02 F05 151K
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K
L404	EO-345880	COIL FIX 1 EL0606SKI 820J
L405	EO-354600	COIL FIX 1 LAP02 F05 101K
L406	EO-354600	COIL FIX 1 LAP02 F05 101K
L410	EO-345874	COIL FIX 1 EL0606SKI 330J
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L472	EO-345880	COIL FIX 1 EL0606SKI 820J
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K
L480	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J [EOG]
L500	EO-345880	COIL FIX 1 EL0606SKI 820J
L501	EO-353900	COIL FIX 1 LAP02 F05 150K
L502	EO-345880	COIL FIX 1 EL0606SKI 820J [490EOH]
L503	EO-353900	COIL FIX 1 LAP02 F05 150K [490EOH]
L504	EO-353900	COIL FIX 1 LAP02 F05 150K [490EOH]
L505	EO-345880	COIL FIX 1 EL0606SKI 820J
L506	EO-345880	COIL FIX 1 EL0606SKI 820J
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
L509	EO-345880	COIL FIX 1 EL0606SKI 820J
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K
L570	EO-345880	COIL FIX 1 EL0606SKI 820J
L590	EO-387802J	COIL FIX 1 EL0405SKI 330K [490EOH]
MD1	BV-403409J	RF CONVERTER MDLK6D755A EO
PJ101	EJ-405226J	PIN JACK T6572-ABBB YLW.RED 2P [EOG/EOH]
PJ102	EJ-387613J	SOCKET M1812 21P
PJ103	EJ-405225J	PIN J JPJ1018-01-030 WHITE 1P [EOG/EOH]
R214	ER-403405J	R OMF H S12 FS 1W R75J
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-375777	TR 2SC2926S P,Q
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-353899	TR 2SA1317 S,T,U
TR5	ET-353899	TR 2SA1317 S,T,U
TR6	ET-353899	TR 2SA1317 S,T,U [EOH]
TR7	ET-353899	TR 2SA1317 S,T,U
TR8	ET-354414	TR DTC144ES
TR9	ET-354414	TR DTC144ES
TR10	ET-354414	TR DTC144ES [EOH]
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U [EO/EOG]
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
TR15	ET-353897	TR DTC114ES
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V
TR19	ET-354414	TR DTC144ES
TR20	ET-405622J	TR 2SD2061 E,F
TR101	ET-354414	TR DTC144ES
TR102	ET-356336	TR DTA114ES
TR103	ET-354414	TR DTC144ES
TR104	ET-353899	TR 2SA1317 S,T,U
TR105	ET-353899	TR 2SA1317 S,T,U
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V
TR108	ET-356336	TR DTA114ES

Ref.No.	Part No.	Description
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
TR110	ET-353899	TR 2SA1317 S,T,U [EOG/EOH]
TR201	ET-366168	TR 2SD1292 Q,R [EOG]
TR202	ET-356336	TR DTA114ES
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR205	ET-388338J	TR 2SB1425 S,E
TR209	ET-354414	TR DTC144ES [EOG]
TR210	ET-405622J	TR 2SD2061 E,F
TR211	ET-356336	TR DTA114ES [EOG]
TR301	ET-354414	TR DTC144ES
TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
TR303	ET-363953	TR DTA114TS [490EOH]
TR304	ET-354415	TR DTA144ES
TR305	ET-354414	TR DTC144ES
TR306	ET-354414	TR DTC144ES
TR307	ET-373985	TR DTA144TS
TR308	ET-373985	TR DTA144TS
TR309	ET-373985	TR DTA144TS
TR310	ET-354414	TR DTC144ES
TR313	ET-354414	TR DTC144ES
TR401	ET-356336	TR DTA114ES
TR402	ET-354414	TR DTC144ES
TR404	ET-354364	TR DTC143TS
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-354414	TR DTC144ES
TR409	ET-360399	TR DTC114TS
TR410	ET-354414	TR DTC144ES
TR411	ET-360399	TR DTC114TS
TR413	ET-354415	TR DTA144ES
TR414	ET-388338J	TR 2SB1425 S,E
TR415	ET-353899	TR 2SA1317 S,T,U
TR417	ET-360399	TR DTC114TS
TR420	ET-354414	TR DTC144ES
TR421	ET-364040	TR UN421D
TR423	ET-356336	TR DTA114ES
TR424	ET-388338J	TR 2SB1425 S,E
TR425	ET-354414	TR DTC144ES [490EOH]
TR470	ET-353899	TR 2SA1317 S,T,U
TR471	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353897	TR DTC114ES
TR502	ET-360646	TR DTA143ES [490EOH]
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR508	ET-356336	TR DTA114ES
TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR513	ET-356336	TR DTA114ES
TR514	ET-354414	TR DTC144ES
TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR572	ET-354414	TR DTC144ES
TR573	ET-354414	TR DTC144ES
VR301	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
VR401	EV-405657J	R S-FIX H T05 KVSF637T 0.1W103
VR402	EV-404300J	R S-FIX H T05 KVSF637T 0.1W472
VR403	EV-405659J	R S-FIX H T05 KVSF637T 0.1W682
VR404A	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333 [EO/EOG]
VR404B	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223 [EOH]
WF201	EW-404138J1	CORD KX MA-POW L=225 12P
X301	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ
1A	BV-403241J1	VIF UNIT KX EOG [EO/EOG]

Ref.No.	Part No.	Description
1B	BV-403240J1	VIF UNIT KX EOH [EOH]
2A	EE-387604J2	TV TUNER TERE1-007C EOG [EO/EOG]
2B	EE-390143J2	TV TUNER TERE3-001C EOH [EOH]
3A	SP-387357J	PANEL REAR JACK EK [EO]
3B	SP-404783J	PANEL REAR JACK EOG (B) [EOG]
3C	SP-404784J	PANEL REAR JACK EK (B) [EOH]

10. MAIN (B) P.C BOARD (F440-F455)

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131
D801	ED-307572	D SILICON H 1SS131
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EDG/EOG]
FL801	EO-388362J	COIL OSC 1 V1102
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EDG/EOG]
IC801	EI-388360J	IC BA7765AS
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EDG/EOG]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L850	EO-397389J	COIL FIX 1 EL0606SKI 4R7J [EOG]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V
TR605	ET-356336	TR DTA114ES
TR606	ET-356336	TR DTA114ES
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-353899	TR 2SA1317 S,T,U
TR609	ET-354414	TR DTC144ES
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EDG/EOG]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EDG/EOG]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VL701	EO-366893	COIL VARI 1 21D6 8.20MH [EDG/EOG]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802	EV-403968J	R S-FIX V T05EVNDCAA03 0.1W473
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

11. MAIN (B) P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131
D801	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131
D902	ED-307572	D SILICON H 1SS131
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EOG]
FL801	EO-388363J	COIL OSC 1 V1105-1
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EOG]
IC702	EI-200573	IC TC4053BP [490EOH]
IC801	EI-388360J	IC BA7765AS
IC901	EI-386468J	IC BA3308
IC902	EI-310036	IC TC4066BP
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EOG]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [490EOH]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L901	EO-345881	COIL FIX 1 EL0606SKI 101J
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V
TR605	ET-356336	TR DTA114ES
TR606	ET-356336	TR DTA114ES
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-353899	TR 2SA1317 S,T,U
TR609	ET-354414	TR DTC144ES
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [490EOH]
TR901	ET-354414	TR DTC144ES
TR902	ET-354414	TR DTC144ES
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V
TR904	ET-353899	TR 2SA1317 S,T,U
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VL701	EO-366893	COIL VARI 1 21D6 8.20MH [EOG]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

12. PRE AMP P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D101	ED-405247J	D ZENER H MTZJ2.7A T26 [F480-F497]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F480-F497]
IC1	EI-387586J	IC BA7244BS
L1	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-345880	COIL FIX 1 EL0606SKI 820J
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L11	EO-345880	COIL FIX 1 EL0606SKI 820J
L12	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L13	EO-381195J	COIL FIX 1 EL0405SKI 331K
L14A	EO-376607	COIL FIX 1 LF-5.0S F05 181K [F440-F455]
L14B	EO-376605	COIL FIX 1 LF-5.0S F05 151K [F480-F497]
L15	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L16	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F480-F497]
PS1	EJ-403389J	SOCKET HOUSING 5062-30-10-18
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-360399	TR DTC114TS [497EOH]
TR4	ET-360399	TR DTC114TS
TR5	ET-364040	TR UN421D
TR6	ET-354414	TR DTC144ES
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353897	TR DTC114ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-364040	TR UN421D
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-354364	TR DTC143TS
TR16	ET-354414	TR DTC144ES
TR17	ET-364040	TR UN421D
TR18	ET-353897	TR DTC114ES
TR19	ET-354414	TR DTC144ES
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [F480-F497]
VR1	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
VR4	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403386J1	CORD FFC P1.25 L=230 18P

13. OPERATION (A) P.C BOARD (F440-F455)

Ref.No.	Part No.	Description
D2	ED-307572	D SILICON H 1SS131 [EXCEPT 440EDG]
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403278J	D ZENER H UTZJ7.5B
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D31	ED-307572	D SILICON H 1SS131
D32	ED-307572	D SILICON H 1SS131 [440EOG,440/450EOH]
D33	ED-307572	D SILICON H 1SS131 [440EOG]
D41	ED-307572	D SILICON H 1SS131 [440EDG/EOG]
D43	ED-307572	D SILICON H 1SS131 [440EDG]
D44	ED-307572	D SILICON H 1SS131 [440EO]
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IC1	EI-408391J1	IC UPD75217CW-146 JBXOPP2
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J2	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-408404J	SW TACT EVQ 235 07K T05 [RESET]
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

14. OPERATION (G) - A P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
D2	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131 [497EOH]
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403731J	D ZENER H UTZJ8.2C
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D28	ED-307572	D SILICON H 1SS131
D32	ED-307572	D SILICON H 1SS131 [480EOG,490EOH]
D41	ED-307572	D SILICON H 1SS131 [480EOG]
D44	ED-307572	D SILICON H 1SS131 [490EO]
D45	ED-307572	D SILICON H 1SS131
D46	ED-307572	D SILICON H 1SS131
D47	ED-307572	D SILICON H 1SS131
D48	ED-307572	D SILICON H 1SS131
FL1	EM-403367J	IND FL FV506G CHARACTER
IB1	EH-403945J	COMP R RGLE9X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IC1	EI-408397J	IC UPD75217CW-147 JFXOPP1
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PJ1	EJ-408399J	PHONE J 2P YKB21-5165 3.5
PJ2	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW10	ES-349474	SW TACT SKHHAM004A
SW11	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
SW13	ES-349474	SW TACT SKHHAM004A
SW14	ES-349474	SW TACT SKHHAM004A
SW15	ES-349474	SW TACT SKHHAM004A
SW16	ES-349474	SW TACT SKHHAM004A
SW17	ES-349474	SW TACT SKHHAM004A
SW18	ES-349474	SW TACT SKHHAM004A
SW19	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

15. OPERATION (G) - B P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
D33	ED-307572	D SILICON H 1SS131 [480EOG]
PH1	ET-381637J2	DETECTOR GP1U521X
SW3	ES-349474	SW TACT SKHHAM004A

16. VIF UNIT (EDG)

Ref.No.	Part No.	Description
CF1	EH-368816	FILTER CE SAF38.0MZA70Z
CF2	EH-376338	FILTER CE TPS6.5MB
CF3	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ
CF4	EH-373918	FILTER CE TPS5.5MB
CF51	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ
CF52	EH-368827	FILTER CE SFS5.5MD 5.500MHZ
CF53	EH-780128	FILTER CE SFE 6.5MB
IC1	EI-368809	IC M51496P
L1	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L2	EO-725954J	COIL SIF DET 6F16263A3
L3	EO-714614	COIL RF 6F16115B1
L4	EO-714610	COIL RF 6F16113B1
L5	EO-397238J	COIL FIX 1 EL0405SKI 6R8K
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L51	EO-396361J	COIL FIX 1 EL0405SKI 8R2K
L52	EO-387803J	COIL FIX 1 EL0405SKI 221K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
Q3	ET-370819	TR.CHIP 2SC3052
Q4	ET-713614	TR CHIP 2SA1235 E,F
Q51	ET-370819	TR.CHIP 2SC3052
Q52	ET-370819	TR.CHIP 2SC3052
VR1	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
X51	EI-368829	OSC CE CSB512P

17. VIF UNIT (EOG/EOH)

Ref.No.	Part No.	Description
CF1	EH-730625J	FILTER CE SAF38.9MZW70Z
CF2	EH-373920	FILTER CE SFE5.5MB
CF3	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3	EO-725953J	COIL SIF DET 6F16263A2
L4	EO-714614	COIL RF 6F16115B1
L5	EO-714610	COIL RF 6F16113B1
L6	EO-387799J	COIL FIX 1 EL0405SKI 180K
L7A	EO-387799J	COIL FIX 1 EL0405SKI 180K [EOG]
L7B	EO-387798J	COIL FIX 1 EL0405SKI 150K [EOH]
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
L51	EO-725964J	COIL TRAP 6F16222A1 [EOG]
L52	EO-725965J	COIL TRAP 6F16223A1 [EOG]
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
Q51	ET-724885J	TR CHIP RT1N141C [EOG]
Q52	ET-724885J	TR CHIP RT1N141C [EOG]
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
VR51	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223
VR52	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223 [EOG]

18. POWER P.C BOARD (EDG,EO,440-455EOH)

Ref.No.	Part No.	Description
C1	EC-406634J	C EC V SXE12 222M 25.0DC
C2	EC-363490	C EC V CUT SME 222M 16.0DC
C3	EC-406635J	C EC V SXE16 222M 35.0DC
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D6	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D7	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D8	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D9	*ED-511907	D SILICON 1N4002 100/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D11	*ED-511907	D SILICON 1N4002 100/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D13	ED-405373J	D ZENER H MTZJ16A T26
D14	ED-404032J	D ZENER H UTZJ39A
D15	ED-405524J	D ZENER H MTZJ36A T26
D16	*ED-404029J	D ZENER H UTZJ10B T26
D17	ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D18	ED-511907	D SILICON 1N4002 100/1.0A [EDG]
FR1	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR4	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-366365	TR 2SB1185 E,F
TR3	*ET-405622J	TR 2SD2061 E,F
TR4	*ET-405622J	TR 2SD2061 E,F
TR5	*ET-405622J	TR 2SD2061 E,F
TR6	*ET-405622J	TR 2SD2061 E,F
TR7	*ET-366365	TR 2SB1185 E,F

19. POWER SUPPLY (1) P.C BOARD (EOG,490/497EOH)

Ref.No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-408377J	C EC V CUT KMG 222M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403880J	C EC V T05 LXF8 221M 25.0DC
C23	EC-406639J	C EC V T05 LXF6 330M 63.0DC
C24	EC-406639J	C EC V T05 LXF6 330M 63.0DC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-511907	D SILICON 1N4002 100/1.0A
D18	*ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-396060J	D ZENER H HZS18-2
D28	ED-391005J	D ZENER H HZS12B1
D51	ED-403267J	D ZENER H MTZJ3.3B T26 [EOG]
D52	ED-307572	D SILICON H 1SS131 [EOG]
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D56	ED-396057J	D ZENER H HZS16-2 [EOH]
D57	ED-405264J	D ZENER H UTZJ10C
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
FL2	EF-339908	FUSE TLC A 250V 630MA [EOG]
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-393769J	COIL FIX 1 LHL06TB T05 471K
R14	ER-333091	R OMF H S20 FS 2W 360J
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V

20. POWER SUPPLY (2) P.C BOARD (EOG, 490/497EOH)

Ref.No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-387919J	D ZENER H HZS6A1L
D52	ED-307572	D SILICON H 1SS131
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	*ET-404195J	TR 2SC4486 S,T T05
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-353899	TR 2SA1317 S,T,U
TR50	ET-353897	TR DTC114ES [EOH]

21. DIODE P.C BOARD (EO/EOG/EOH)

Ref.No.	Part No.	Description
D1/D14	*ED-379298	D SILICON DBA20B 100/2.0A

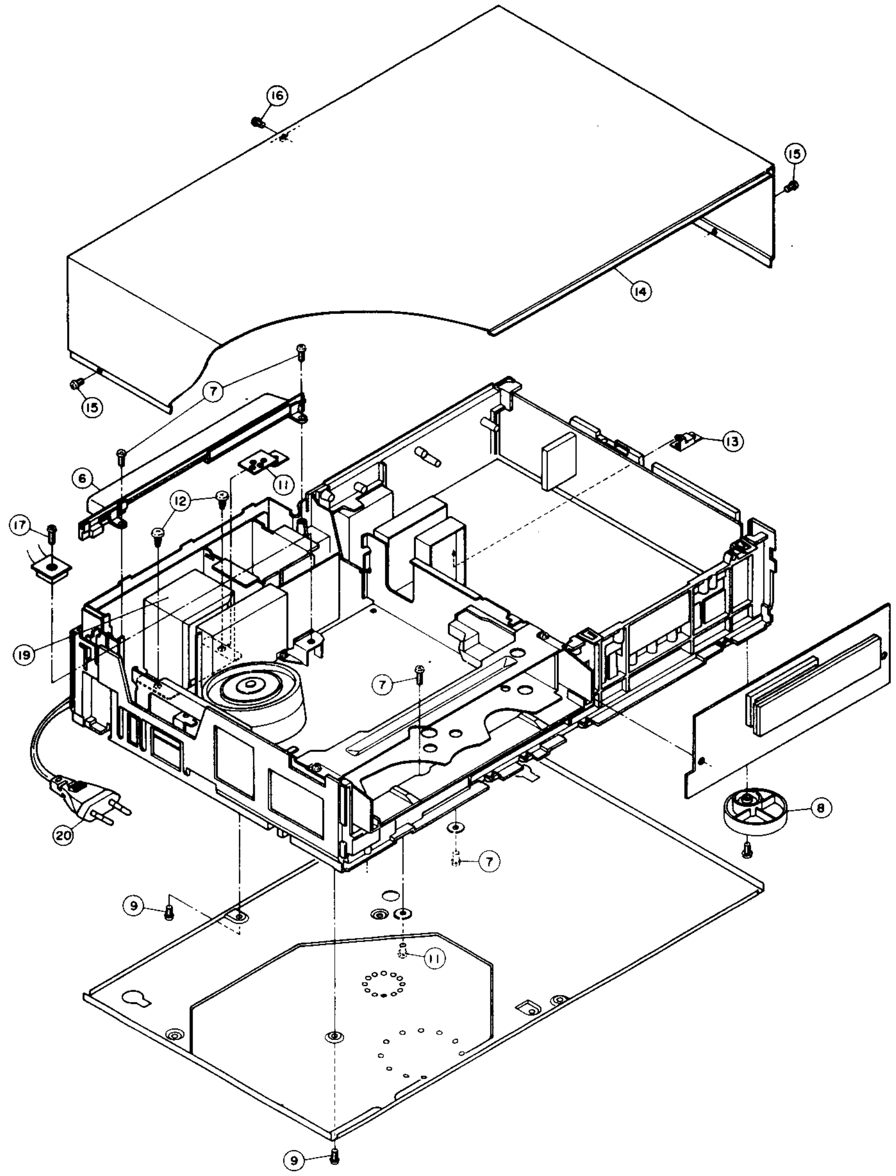
22. VPST PDC P.C BLOCK (EOG ONLY)

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D101	ED-307572	D SILICON H 1SS131
D201	ED-307572	D SILICON H 1SS131
D601	ED-307572	D SILICON H 1SS131
D602	ED-405446J	D ZENER H UTZJ5.6B T26
FL101	EH-394684J	FILTER EMI ZBF503D-00TA T05
FR601	ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
IB101	EH-383056J	COMP R RGLE4X 103J
IB102	EH-386637J	COMP R RGLE8X 103J
IC101	EI-410521J	IC UPD75218CW-014 JXPDC1
IC102	EI-405224J	IC ST24C02
IC103	EI-405224J	IC ST24C02
IC104	EI-408434J	IC MV1815-1BA
IC105	EI-410125J	IC V53C464AP-80
IC106	EI-401050J	IC LVA523SA2
IC107	EI-394680J	IC AN3171K
IC108	EI-387019J	IC MC1377P
IC301	EI-385958J	IC SAA4700
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L101	EO-345865	COIL FIX 1 EL0606SKI 100J
L102	EO-345865	COIL FIX 1 EL0606SKI 100J
L121	EO-345865	COIL FIX 1 EL0606SKI 100J
L151	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L152	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L153	EO-345880	COIL FIX 1 EL0606SKI 820J
L154	EO-410099J	COIL FIX 1 SPT0203SA T26 470J
L155	EO-345865	COIL FIX 1 EL0606SKI 100J
L201	EO-345865	COIL FIX 1 EL0606SKI 100J
L202	EO-345865	COIL FIX 1 EL0606SKI 100J
L203	EO-345875	COIL FIX 1 EL0606SKI 390J
L204	EO-345873	COIL FIX 1 EL0606SKI 270J
L206	EO-345871	COIL FIX 1 EL0606SKI 180J
L207	EO-345874	COIL FIX 1 EL0606SKI 330J
L208	EO-345874	COIL FIX 1 EL0606SKI 330J
L251	EO-345865	COIL FIX 1 EL0606SKI 100J
L301	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-354415	TR DTA144ES
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V
TR151	ET-397160J	TR 2SC3330 R,S,T,U,V
TR152	ET-353899	TR 2SA1317 S,T,U
TR153	ET-353899	TR 2SA1317 S,T,U
TR154	ET-397160J	TR 2SC3330 R,S,T,U,V
TR155	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	ET-353899	TR 2SA1317 S,T,U
TR208	ET-353899	TR 2SA1317 S,T,U
TR251	ET-397160J	TR 2SC3330 R,S,T,U,V
TR252	ET-353899	TR 2SA1317 S,T,U
TR253	ET-353899	TR 2SA1317 S,T,U
TR601	ET-354083	TR 2SD1189 Q,R
X101	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X102	EI-408433J	OSC X'TAL HC-43/U 27750KHZ
X103	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ

23. JOG/SHUTTLE P.C BOARD (480-497)

Ref.No.	Part No.	Description
SW1	ES-403377J	SW ROTARY ENCODER SRGPHJ

FINAL ASSEMBLY BLOCK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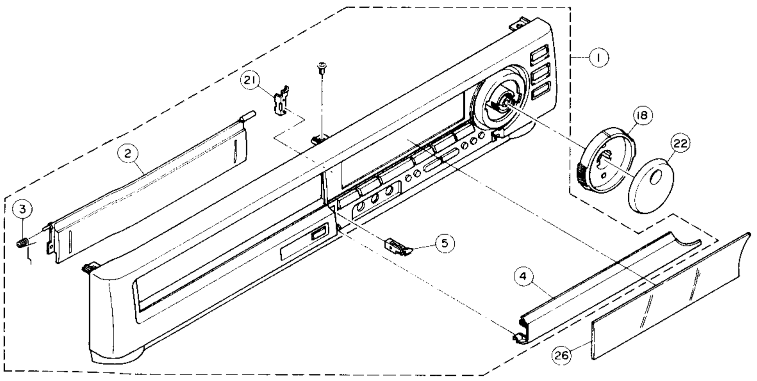
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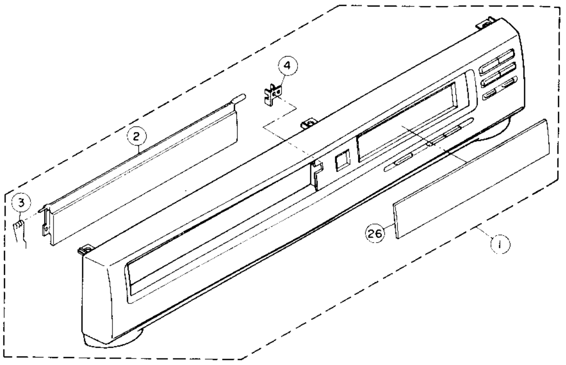
VS-F480/F490/F497



VS-F440/F450/F455

24. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1A	BD-409297J	PANEL FRONT VS-F440EDG PART
1B	BD-409286J	PANEL FRONT VS-F440EOG-V PART
1C	BD-409284J	PANEL FRONT VS-F440EOH PART [440EO/EOH]
1D	BD-409287J	PANEL FRONT VS-F450EOH PART
1E	BD-409288J	PANEL FRONT VS-F455EOH PART
1F	BD-409124J1	PANEL FRONT VS-F480EOG-V PART
1G	BD-409125J1	PANEL FRONT VS-F490EO/EOH PART
1H	BD-409129J1	PANEL FRONT VS-F497EOH PART
2A	SE-409197J	MASK CASSETTE (J) VS-F440 (E2) [440EDG/EO/EOH]
2B	SE-409202J	MASK CASSETTE (J) VS-F440 (G) [440EOG]
2C	SE-409198J	MASK CASSETTE (J) VS-F450 (E) [450EOH]
2D	SE-409199J	MASK CASSETTE (J) VS-F455 (E) [455EOH]
2E	SE-409102J1	MASK CASSETTE VS-F480 (G) [480EOG]
2F	SE-409103J1	MASK CASSETTE VS-F490 (E) [490EO/EOH]
2G	SE-409107J1	MASK CASSETTE VS-F497 (E) [497EOH]
3	ZG-387370J	SP MASK
4A	SP-409112J	DOOR (G) [480EOG]
4B	SP-407593J	DOOR (E) [490EO/EOH]
4C	SP-409113J	DOOR (E2) [497EOH]
5	SZ-404290J	MINI SIDE LOCK [F480/F490/F497]
6	SC-387353J	COVER TRANS
7	ZS-378341	PLX BID30X12STL CMT
8	SA-387507J	FOOT SX
9	ZS-358936	ST BID30X06STL CMT
11	ZG-387505J	PLATE EARTH
12	ZS-373962	PLX BID40X10STL CMT
13	ZG-387354J	PLATE EARTH (2)
14	SP-407479J	COVER UPPER JX
15	ZS-385611J	DT BID26X06STL BNI
16	ZS-391046J	PLX BID26X10STL BNI
17	ZS-659046	PAN26X10STL CMT
18	SK-407561J	KNOB SHUTTLE [F480/F490/F497]
19A	*BT-410491J	TRANS POW V1130 EDG [EDG]
19B	*BT-403873J	TRANS POW V1130 EO [EO,440-455EOH]
19C	*BT-403883J	TRANS POW V1130 EOG-V [EOG,490-497EOH]
20	*EW-404002M	AC CORD 200 SE-1 WITH TUBE E
21A	SZ-401874J	STOPPER MASK [F440/F450/F455]
21B	SZ-407583J	STOPPER MASK (2) [F480/F490/F497]
22	SK-407562J	KNOB JOG [F480/F490/F497]
26	SE-409191J	WINDOW FLD (3) [440EDG]

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

25. ACCESSARY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1038A010A	REMOCON BLK RC-V250E [440EDG/EO/EOH]
2B	AV-B1039A010A	REMOCON BLK RC-V251G [440EOG]
2C	AV-B1042A010C	REMOCON BLK RC-V252E (G) [450/455EOH]
2D	AV-B1040A010F	REMOCON BLK RC-V451G [480EOG]
2E	AV-B1043A010E	REMOCON BLK RC-V452E [490EO/EOH,497EOH]

6-4. REMOTE CONTROL BLOCK

• ALL MODEL

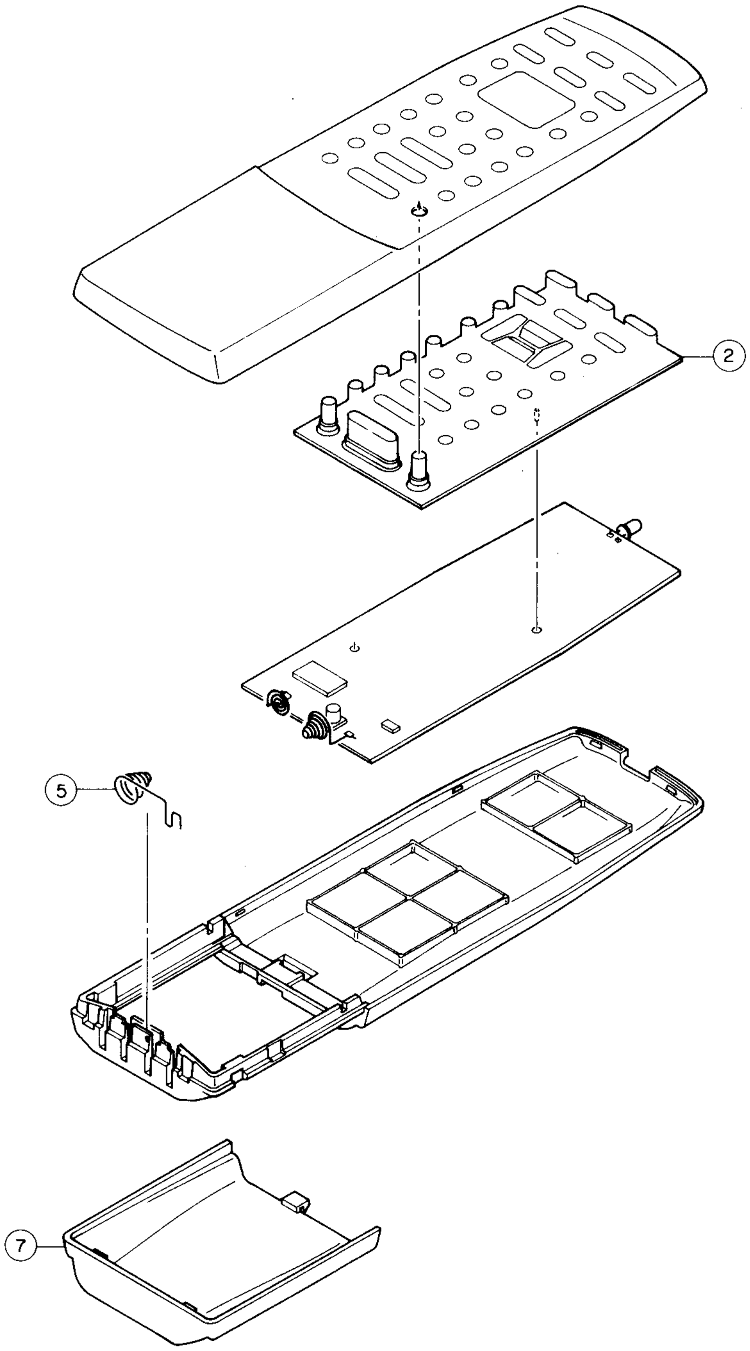
1.RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	ED-397391J	D LED BR3668S RED
2	ED-403450J	D LED SE303ARF-C INFRARED
3	ED-386031J	D SILICON CHIP MA110-TW
4	EI-408408J1	IC M50933-128FP JXLCDR2
5	EI-400672J	IC S-8052ALB-LE
6	EI-376112	IC UPD6122G
7	EI-408449J	IC UPD75004GB-771 JXVPTR1 QF
8	EI-403451J	OSC CE CSB1200J 1.200MHZ
9	EI-408450J	OSC CE CST2.45MGW 2.450MHZ
10	EI-390687J	OSC CE CSU455PL 455KHZ
11	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
12	EI-368825	OSC X'TAL MX-38T 32.768KHZ
13	EJ-408427J	CONNECTOR LCD (4) B1043
14	EJ-403095J	TERMINAL LCD (3) B1014
15	EM-408437J	IND LCD LD-B5444A ENGLISH
16	EM-403448J	IND LCD LF5381G ENGLISH
17	ES-408428J	SW ROTARY ENCODER SRGPPJ
18	ES-393431J	SW TACT CHIP SKHUAB T12E
19	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
20	ET-405342J	TR.CHIP 2SD1620

• MODEL VS-F440EA/EDG/EDI/EK/EM/EO/EOH, F441EA

REMOCON RC-V250E



30. REMOCON RC-V250E

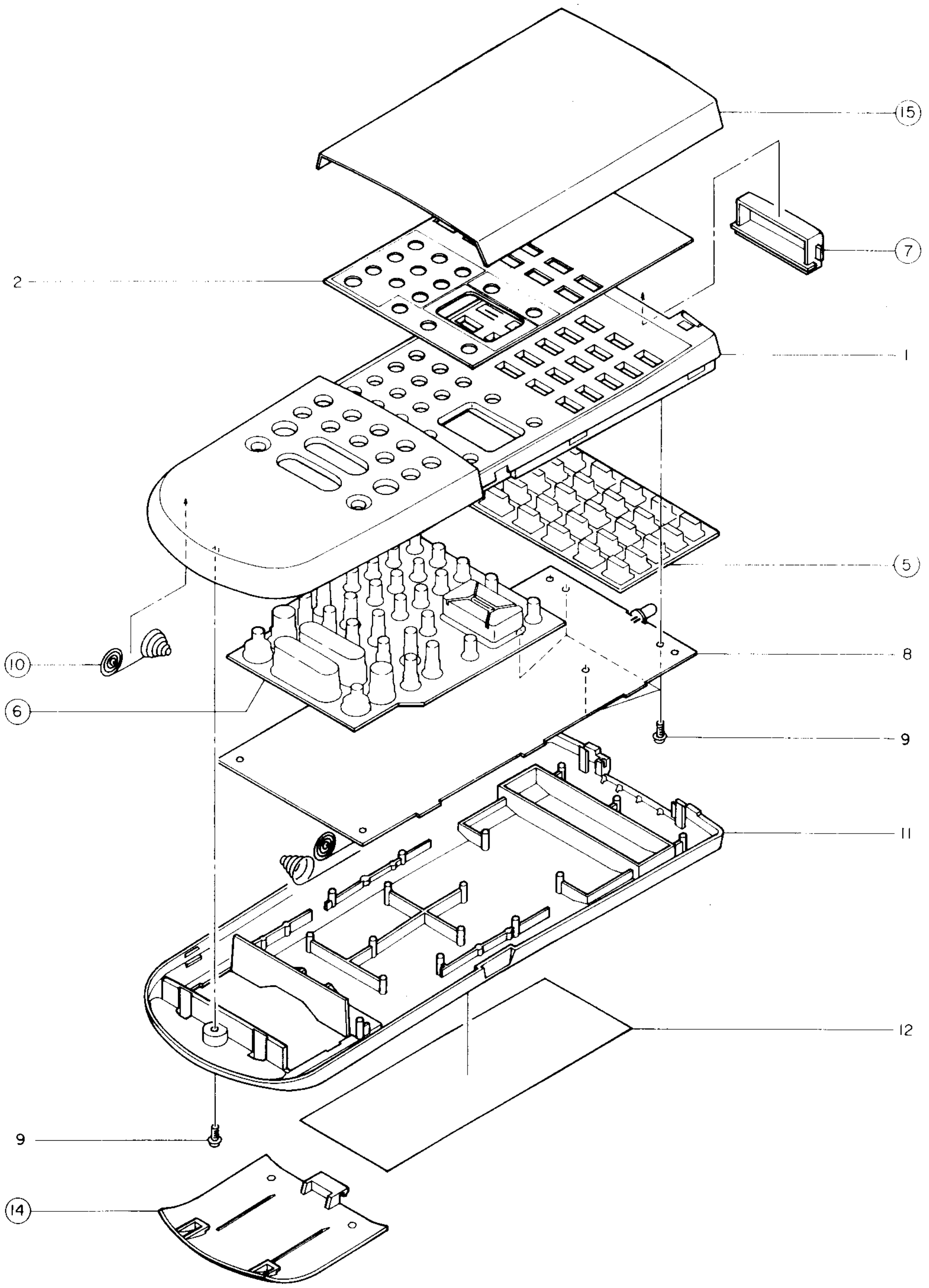
Ref.No.	Part No.	Description
2	MB-407424J	KEY RUBBER
5	ZG-406719J	TERMINAL BATTERY (A3)
7	SC-407425J	COVER BATTERY

31. REMOCON P.C BOARD RC-V250E

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-386031J	D SILICON CHIP MA110-TW
D3	ED-386031J	D SILICON CHIP MA110-TW
D4	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-376112	IC UPD6122G
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	ZG-406720J	TERMINAL BATTERY (A1)
2	ZG-406722J	TERMINAL BATTERY (A2)

• MODEL VS-F440EOG-V

REMOCON RC-V251G



32. REMOCON RC-V251G

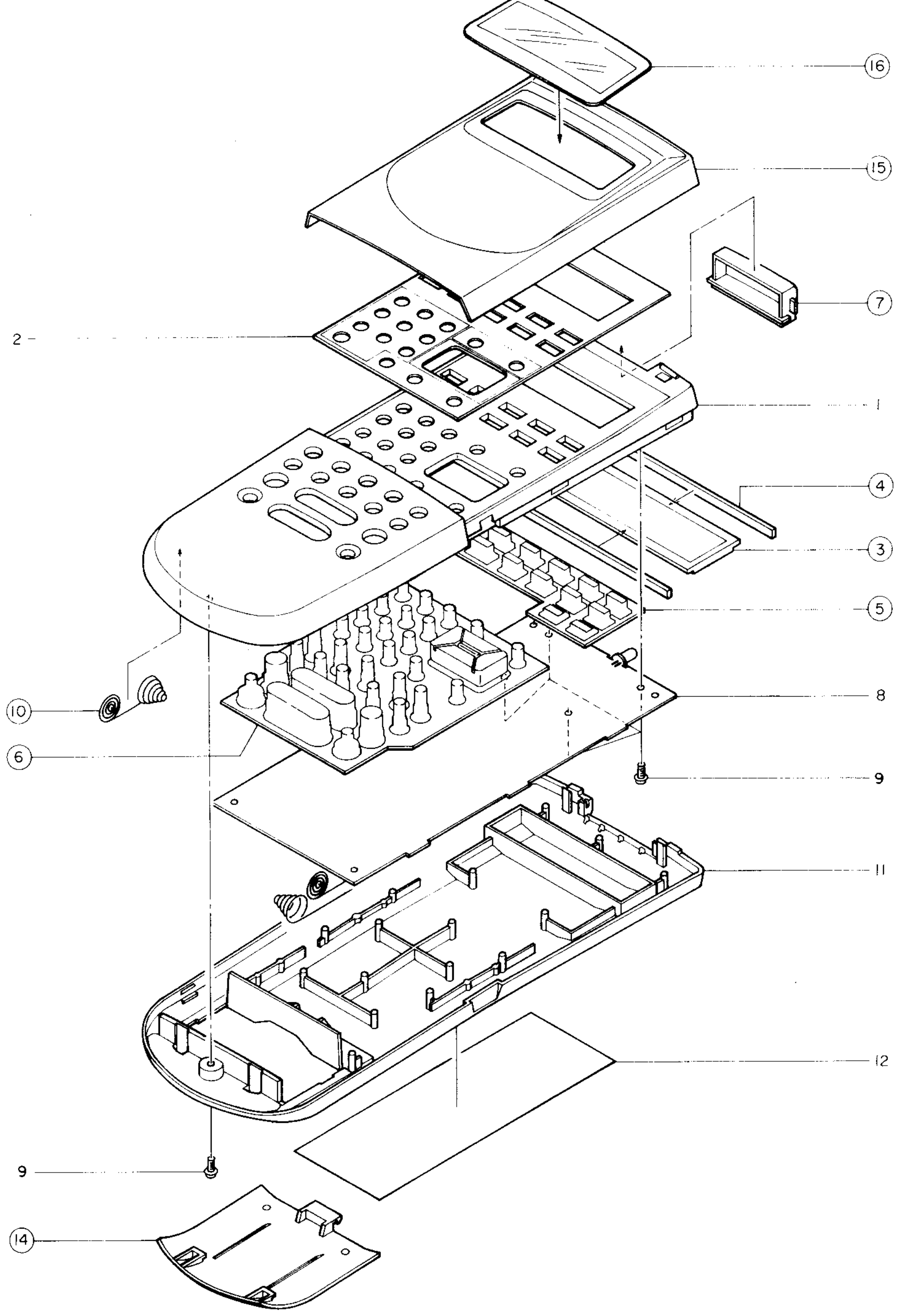
Ref.No.	Part No.	Description
5	MB-406737J	KEY RUBBER (M6)
6	MB-406738J	KEY RUBBER (L) -2
7	SE-403111J	FILTER
9	ZS-374389	PT BID20X06STL BNI
10	ZG-403100J2	TERMINAL BATTERY (+-)
14	SC-406730J	COVER BATTERY (2)
15	SP-406739J	DOOR PANEL (V) -G2

33. REMOCON P.C BOARD RC-V251G

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-386031J	D SILICON CHIP MA110-TW
D3	ED-386031J	D SILICON CHIP MA110-TW
D4	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-376112	IC UPD6122G
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	ZG-403098J	TERMINAL BATTERY (+)
2	ZG-403099J	TERMINAL BATTERY (-)

- **MODEL VS-F450EOH, F455EOH**

REMOCON EC-V252E



34. REMOCON RC-V252E (G)

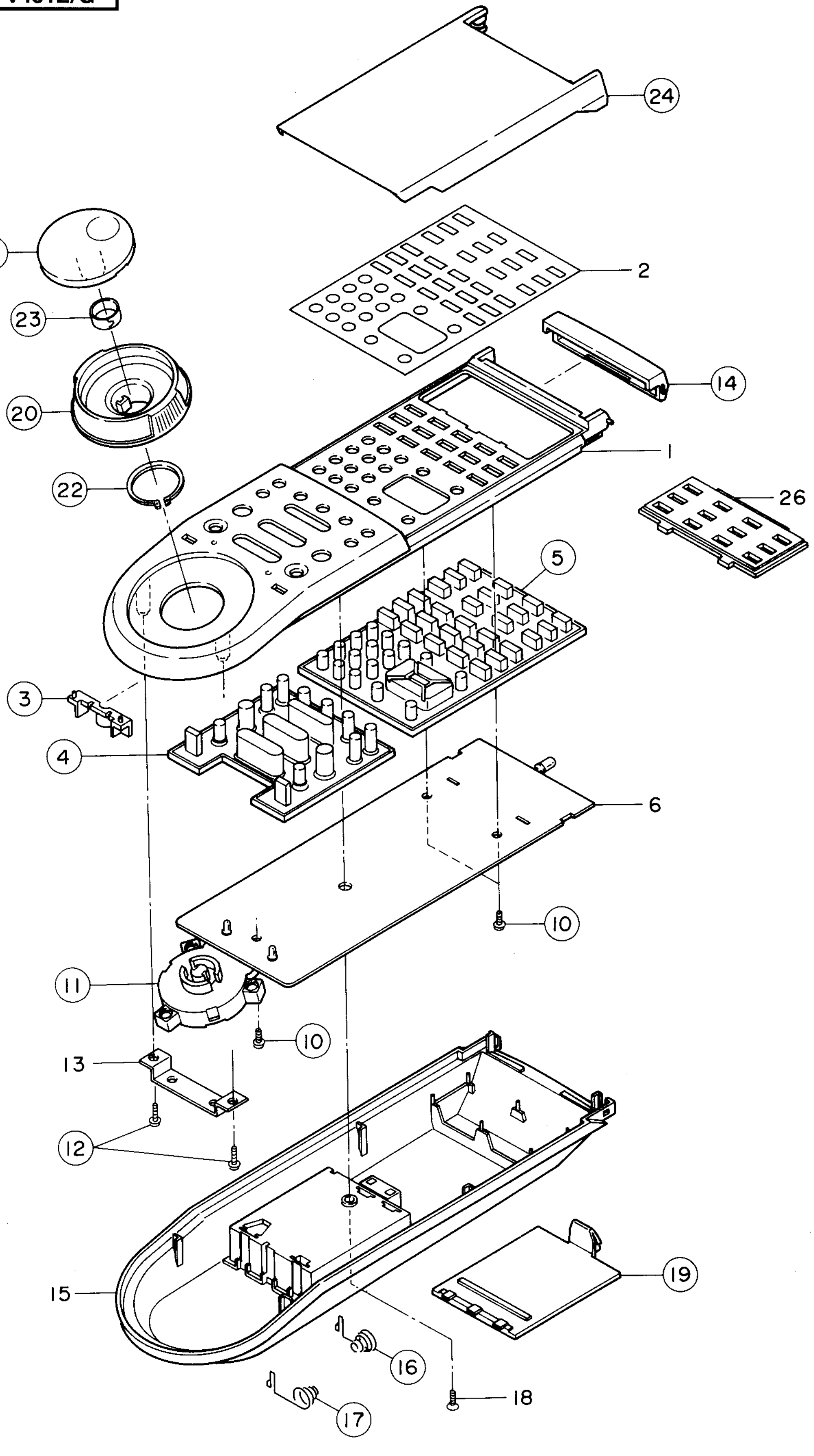
Ref.No.	Part No.	Description
3	EM-403448J	IND LCD LF5381G ENGLISH
4	EJ-403095J	TERMINAL LCD (3) B1014
5	MB-403107J	KEY RUBBER (S2)
6	MB-406738J	KEY RUBBER (L) -2
7	SE-403111J	FILTER
9	ZS-374389	PT BID20X06STL BNI
10	ZG-403100J2	TERMINAL BATTERY (+-)
14	SC-406730J	COVER BATTERY (2)
15	SP-406731J	DOOR PANEL (L2)
16	SP-403096J1	WINDOW LCD

35. REMOCON P.C BOARD RC-V252E (G)

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
IC1	EI-408408J1	IC M50933-128FP JXLCDR2
IC2	EI-400672J	IC S-8052ALB-LE
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-368825	OSC X'TAL MX-38T 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ
1	ZG-403098J	TERMINAL BATTERY (+)
2	ZG-403099J	TERMINAL BATTERY (-)

- **MODEL VS-F480EK-V/EOG-V**

REMOCON RC-V451E/G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36. REMOCON RC-V451E/V451G

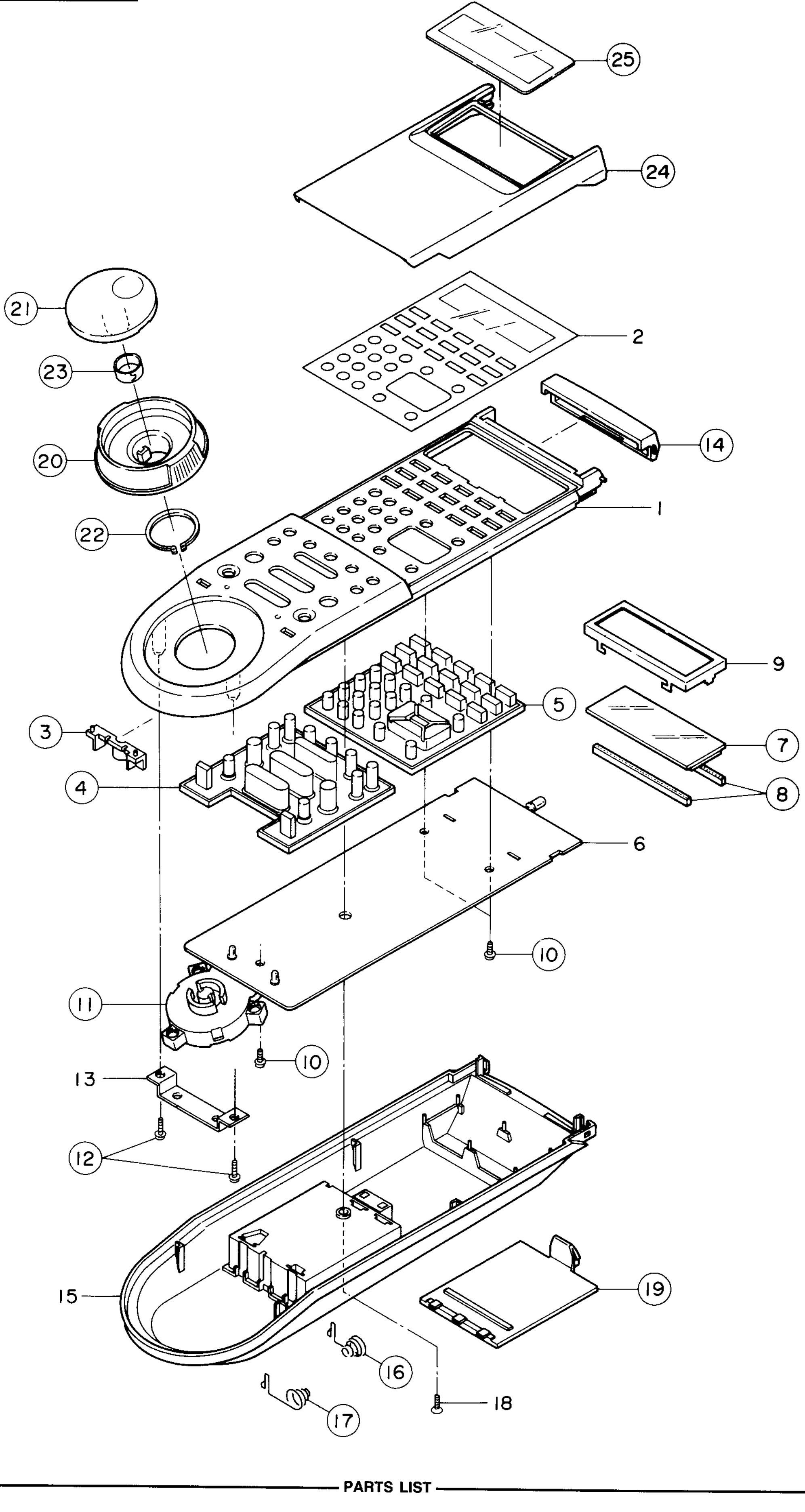
Ref.No.	Part No.	Description
3	SE-407612J	LENS (V)
4	MB-407645J	KEY RUBBER (V1)
5	MB-407624J	KEY RUBBER (V2) -C
10	ZS-374389	PT BID20X06STL BNI
11	ES-408428J	SW ROTARY ENCODER SRGPPJ
12	ZS-336614	PT PAN26X08STL CMT
14	SE-407625J	FILTER (V)
16	ZG-407614J	TERMINAL BATTERY (V3)
17	ZG-407615J	TERMINAL BATTERY (V4)
19	SC-407627J	COVER BATTERY (V)
20	SK-407713J	KNOB RING-R
21	SK-407708J	KNOB JOG
22	SZ-408436J	RING C S-19
23	SZ-408435J	COMPRESSION RING 10193
24A	SP-407633J	DOOR PANEL (V) -451E [RC-V451E]
24B	SP-407632J	DOOR PANEL (V) -451G [RC-V451G]

37. REMOCON P.C BOARD RC-V451E

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-397391J	D LED BR3668S RED
D3	ED-397391J	D LED BR3668S RED
IC1	EI-408449J	IC UPD75004GB-771 JXVPTR1 QF
IC2	EI-400672J	IC S-8052ALB-LE
TR1	ET-405342J	TR.CHIP 2SD1620
X1	EI-408450J	OSC CE CST2.45MGW 2.450MHZ
1	ZG-407616J	TERMINAL BATTERY (V1)
2	ZG-407617J	TERMINAL BATTERY (V2)

- **MODEL VS-F490EM/EO/EOH/ES, F497EOH**

REMOCON RC-V452E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38. REMOCON RC-V452E

Ref.No.	Part No.	Description
3	SE-407612J	LENS (V)
4	MB-407645J	KEY RUBBER (V1)
5	MB-407620J	KEY RUBBER (W) -C
7	EM-408437J	IND LCD LD-B5444A ENGLISH
8	EJ-408427J	CONNECTOR LCD (4) B1043
10	ZS-374389	PT BID20X06STL BNI
11	ES-408428J	SW ROTARY ENCODER SRGPPJ
12	ZS-336614	PT PAN26X08STL CMT
14	SE-407625J	FILTER (V)
16	ZG-407614J	TERMINAL BATTERY (V3)
17	ZG-407615J	TERMINAL BATTERY (V4)
19	SC-407627J	COVER BATTERY (V)
20	SK-407713J	KNOB RING-R
21	SK-407708J	KNOB JOG
22	SZ-408436J	RING C S-19
23	SZ-408435J	COMPRESSION RING 10193
24	SP-407640J	DOOR PANEL (W) -452E
25	SE-407613J	WINDOW DOOR (W)

39. REMOCON P.C BOARD RC-V452E

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-397391J	D LED BR3668S RED
D3	ED-397391J	D LED BR3668S RED
D4	ED-386031J	D SILICON CHIP MA110-TW
D5	ED-386031J	D SILICON CHIP MA110-TW
D6	ED-386031J	D SILICON CHIP MA110-TW
D7	ED-386031J	D SILICON CHIP MA110-TW
D8	ED-386031J	D SILICON CHIP MA110-TW
D9	ED-386031J	D SILICON CHIP MA110-TW
D10	ED-386031J	D SILICON CHIP MA110-TW
D11	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-408408J1	IC M50933-128FP JXLCDR2
IC2	EI-400672J	IC S-8052ALB-LE
SW1	ES-393431J	SW TACT CHIP SKHUAB T12E
TR1	ET-405342J	TR.CHIP 2SD1620
X1	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ

NOTE

INDEX

1. MODEL VS-F440EA/EDI/EM, F441EA, F490EM

Part No.	Ref. No.
AVB1038A010A	23-2A
AVB1043A010E	23-2B
BAV1130A500A	7-4A
BAV1130A510A	7-4B
BAV1132A610F	7-2A
BAV1132A610G	7-2D
BAV1132A615C	7-2B
BAV1132A615G	7-2C
BAV1146A635K	7-3A
BAV1146A635L	7-3B
BAV1146A640A	7-3C
BAV1146A640C	7-3D
BAV1150A600A	7-1A
BAV1150A600D	7-1B
BAV1150A600E	7-1C
BAV1152A600B	7-1D
BAV1152A630B	7-3E
BBV1130A020C	4-70
BBV1130A020H	3-64
BD409126J1	22-1D
BD409284J	22-1A
BD409298J	22-1C
BD409299J1	22-1B
BLV1102A050A	3-23
BLV1102A140A	3-43
BLV1102A140A	4-43
BLV1123A050A	4-23
BLV1130A160A	4-65
BL387458J2	6-37
BM387503J	5-31
BM387503J	6-31
BM400682J1	5-9
BM400682J1	6-9
BM401296J1	2-8
BT410487J	22-19A
BT410488J	22-19C
BT410489J	22-19B
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EC389414J	17-C101
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EJ387497J	6-15	EO387800J	14-L1	ES349474	12-SW16	ET356336	8-TR401
EJ387497J	11-PS2	EO387802J	8-L590	ES349474	12-SW17	ET356336	8-TR423
EJ387497J	12-PS2	EO387802J	14-L8	ES349474	12-SW18	ET356336	8-TR508
EJ387614J	8-PJ101	EO387803J	15-L52	ES349474	12-SW19	ET356336	8-TR513
EJ387622J	12-PJ2	EO388161J	8-L474	ES349474	13-SW3	ET356336	9-TR605
EJ387623J	12-PJ3	EO388349J	10-FL101	ES373099	5-39	ET356336	9-TR606
EJ389815J	11-PS1	EO388362J	9-FL801A	ES373099	6-39	ET356817	17-TR6
EJ389815J	12-PS1	EO388363J	9-FL801B	ES387465J	5-17	ET360399	8-TR409
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EH403945J	12-IB1
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EI387586J	10-IC1
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EJ387622J	12-PJ2
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EJ403389J	10-PS1	EO386541J	16-L6	ES349474	12-SW19	ET354415	8-TR413
EJ405225J	8-PJ103	EO387798J	14-L6	ES349474	13-SW3	ET354415	19-TR101
EJ405226J	8-PJ101A	EO387798J	14-L7	ES373099	5-39	ET356336	8-TR102
EJ408399J	12-PJ1	EO387800J	14-L1	ES373099	6-39	ET356336	8-TR108
EM401077J	11-FL1	EO387802J	8-L590	ES387465J	5-17	ET356336	8-TR202
EM403367J	12-FL1B	EO387802J	14-L8	ES387465J	6-17	ET356336	8-TR401
EM408395J	12-FL1A	EO388161J	8-L474	ES403377J	20-SW1	ET356336	8-TR423
EO345865	19-L1	EO388349J	10-FL101	ES408404J	11-SW1	ET356336	8-TR508
EO345865	19-L101	EO388362J	9-FL801A	ET353897	8-TR15	ET356817	16-TR6
EO345865	19-L102	EO388363J	9-FL801B	ET353897	8-TR501	ET360399	8-TR409
EO345865	19-L121	EO390716J	9-L802	ET353897	10-TR10	ET360399	8-TR411
EO345865	19-L155	EO390716J	10-L101	ET353897	10-TR18	ET360399	8-TR417
EO345865	19-L201	EO390717J	9-L801	ET353897	17-TR50	ET360399	10-TR3
EO345865	19-L202	EO390998J	8-L1	ET353899	8-TR1	ET360399	10-TR4
EO345865	19-L251	EO392817J	8-L507	ET353899	8-TR3	ET360399	10-TR22
EO345871	19-L206	EO393769J	16-L9	ET353899	8-TR4	ET360399	16-TR14
EO345873	19-L204	EO403270J	8-L510	ET353899	8-TR5	ET360399	16-TR15
EO345874	8-L410	EO403937J	8-L508	ET353899	8-TR7	ET360646	8-TR502
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EO345874	19-L208	EO408381J	16-L2	ET353899	8-TR13	ET361490	6-24
EO345875	19-L203	EO408381J	16-L3	ET353899	8-TR104	ET363953	8-TR303
EO345876	9-L602	EO408381J	16-L4	ET353899	8-TR105	ET364040	8-TR421
EO345880	8-L404	EO410099J	19-L154	ET353899	8-TR110	ET364040	10-TR5
EO345880	8-L472	EO410104J	19-L151	ET353899	8-TR407	ET364040	10-TR13
EO345880	8-L500	EO410104J	19-L152	ET353899	8-TR415	ET364040	10-TR17
EO345880	8-L502	EO714610	14-L5	ET353899	8-TR470	ET366365	15-TR2
EO345880	8-L505	EO714614	14-L4	ET353899	8-TR471	ET366365	15-TR7
EO345880	8-L506	EO725954J	14-L3	ET353899	9-TR601	ET366365	16-TR1
EO345880	8-L509	ER333091	16-R14	ET353899	9-TR607	ET366365	16-TR5
EO345880	8-L570	ER400605J	15-FR5	ET353899	10-TR1	ET366365	16-TR9
EO345880	10-L8	ER400605J	16-FR3	ET353899	10-TR11	ET366365	16-TR13
EO345880	10-L10	ER400689J	16-FR4	ET353899	10-TR12	ET373985	8-TR307
EO345880	10-L11	ER400728J	15-FR2	ET353899	17-TR3	ET373985	8-TR308
EO345880	19-L153	ER400728J	15-FR4	ET353899	17-TR8	ET373985	8-TR309
EO345881	8-L101	ER400728J	16-FR1	ET353899	19-TR152	ET375777	8-TR2
EO345881	8-L302	ER400729J	8-FR350	ET353899	19-TR153	ET381175J	15-TR1
EO345881	9-L601	ER400959J	8-FR201	ET353899	19-TR204	ET381637J2	11-PH1
EO345881	9-L605	ER403405J	8-R214	ET353899	19-TR208	ET381637J2	13-PH1
EO345881	9-L701	ER404093J	8-FR202	ET353899	19-TR252	ET388338J	8-TR205
EO345881	9-L702	ER404093J	8-FR501	ET353899	19-TR253	ET388338J	8-TR414
EO345881	9-L901	ER405441J	16-FR5	ET354364	8-TR404	ET388338J	8-TR424
EO351866	9-L604	ER408375J	15-FR1	ET354364	10-TR15	ET389803J	9-TR608
EO353900	8-L501	ER408375J	15-FR3	ET354414	8-TR8	ET389803J	9-TR904
EO353900	8-L503	ER408375J	16-FR2	ET354414	8-TR9	ET390009J	5-19
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EO354600	8-L401	ES349474	11-SW4	ET354414	8-TR103	ET397160J	8-TR12
EO354600	8-L405	ES349474	11-SW5	ET354414	8-TR301	ET397160J	8-TR17
EO354600	8-L406	ES349474	11-SW6	ET354414	8-TR305	ET397160J	8-TR18
EO356722	8-L103	ES349474	11-SW7	ET354414	8-TR306	ET397160J	8-TR107
EO356722	8-L470	ES349474	11-SW8	ET354414	8-TR310	ET397160J	8-TR109
EO357508	8-L402	ES349474	11-SW9	ET354414	8-TR313	ET397160J	8-TR203
EO376600	10-L1	ES349474	11-SW12	ET354414	8-TR402	ET397160J	8-TR302
EO376600	10-L16	ES349474	12-SW1	ET354414	8-TR408	ET397160J	8-TR406
EO376603	10-L5	ES349474	12-SW2	ET354414	8-TR410	ET397160J	8-TR503
EO376606	10-L4	ES349474	12-SW4	ET354414	8-TR420	ET397160J	8-TR504
EO376607	10-L14	ES349474	12-SW5	ET354414	8-TR425	ET397160J	8-TR505
EO376612	10-L15	ES349474	12-SW6	ET354414	8-TR572	ET397160J	8-TR506
EO376614	10-L9	ES349474	12-SW7	ET354414	8-TR573	ET397160J	8-TR507
EO376857	10-L3	ES349474	12-SW8	ET354414	9-TR602	ET397160J	8-TR509
EO376858	10-L2	ES349474	12-SW9	ET354414	9-TR803	ET397160J	8-TR510
EO376859	10-L12	ES349474	12-SW10	ET354414	9-TR901	ET397160J	8-TR511
EO376860	10-L7	ES349474	12-SW11	ET354414	9-TR902	ET397160J	8-TR512
EO380091J1	17-L10	ES349474	12-SW12	ET354414	10-TR6	ET397160J	8-TR515
EO381192J	8-L403	ES349474	12-SW13	ET354414	10-TR16	ET397160J	8-TR570
EO381193J	10-L6	ES349474	12-SW14	ET354414	10-TR19	ET397160J	8-TR571
EO381195J	8-L511	ES349474	12-SW15	ET354414	10-TR23	ET397160J	9-TR603
EO381195J	10-L13	ES349474	12-SW16	ET354414	11-TR1	ET397160J	9-TR701
EO381196J	8-L301	ES349474	12-SW17	ET354414	12-TR1	ET397160J	9-TR751
EO381197J	8-L512	ES349474	12-SW18	ET354415	8-TR304	ET397160J	9-TR752

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ET397160J	9-TR754	ML387277J3	4-32	MZ404577J	6-7	ZS321298	2-3
ET397160J	9-TR801	ML387311J2	5-42	MZ404995J	4-62	ZS321298	3-15
ET397160J	9-TR903	ML387311J2	6-42	MZ406134J	3-58	ZS321298	4-15
ET397160J	10-TR2	ML387316J	3-1	SA387507J	21-8	ZS336714	2-12
ET397160J	10-TR7	ML387316J	4-1	SC387353J	21-6	ZS336714	3-22
ET397160J	10-TR8	ML387318J	3-2	SE395554J	3-57	ZS336714	4-22
ET397160J	10-TR9	ML387318J	4-2	SE395554J	4-57	ZS344754	3-16
ET397160J	10-TR14	ML387321J	3-4	SE409101J1	21-2B	ZS358936	3-59
ET397160J	10-TR21	ML387324J1	5-1	SE409104J1	21-2C	ZS358936	4-59
ET397160J	10-TR101	ML387344J	3-54	SE409197J	21-2A	ZS358936	5-41
ET397160J	16-TR16	ML387344J	4-54	SK407561J	21-18	ZS358936	6-41
ET397160J	19-TR1	ML387345J	3-51	SK407562J	21-22	ZS358936	21-9
ET397160J	19-TR102	ML387345J	4-51	SP388306J	8-3B	ZS365149	5-10
ET397160J	19-TR151	ML387346J	3-53	SP404784J	8-3A	ZS365149	6-10
ET397160J	19-TR154	ML387346J	4-53	SP407479J	21-14	ZS373962	21-12
ET397160J	19-TR155	ML387349J2	3-56	SP409133J	21-4B	ZS374458	3-38
ET397160J	19-TR201	ML387349J2	4-56	SP409166J	21-4A	ZS374458	4-38
ET397160J	19-TR202	ML387350J1	3-47	SZ387263J4	4-24	ZS378341	21-7
ET397160J	19-TR203	ML387350J1	4-47	SZ387388J	2-4	ZS379350	2-11
ET397160J	19-TR251	ML387402J1	5-3	SZ391866J1	4-60	ZS379405	2-5
ET403420J	6-14	ML387402J1	6-3	SZ401874J	21-21A	ZS385611J	21-15
ET404195J	17-TR4	ML387423J	3-6	SZ404290J	21-5	ZS389853J	2-14
ET405622J	8-TR20	ML387428J	3-39	SZ407187J2	3-24	ZS389853J	4-16
ET405622J	8-TR210	ML387428J	4-39	SZ407583J	21-21B	ZS389950J	5-40
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ET405622J	15-TR6	ML390768J4	4-25	ZG373900	3-12	ZS404844J	4-14
ET405622J	16-TR12	ML391745J3	3-41	ZG373900	4-12	ZS425981	5-36
ET405622J	17-TR2	ML391745J3	4-41	ZG387272J	3-26	ZS425981	6-36
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ET713614	14-Q2	ML404847J	4-66	ZG387282J	4-33	ZS467796	2-9
ET725820J	14-Q1	ML404944J	5-2	ZG387320J	3-3	ZS563444	2-7
EV390157J	10-VR1	ML404944J	6-2	ZG387320J	4-3	ZS659046	21-17
EV390157J	10-VR2	ML407119J	4-4	ZG387323J	3-5	ZW332843	3-30
EV403967J	9-VR801	MP404852J	3-27	ZG387323J	4-5	ZW332843	4-30
EV403968J	9-VR802A	MP404852J	4-64	ZG387348J1	3-49	ZW374445	3-19
EV404298J	14-VR2	MR387286J1	3-18	ZG387348J1	4-49	ZW374445	4-19
EV404300J	8-VR402	MR387286J1	4-18	ZG387354J	21-13	ZW387492J	5-8
EV405248J	10-VR3	MR387406J	5-35	ZG387370J	21-3	ZW387492J	6-8
EV405248J	10-VR4	MR387406J	6-35	ZG387403J	5-5	ZW389814J	3-8
EV405263J	9-VR802B	MR391968J	5-33	ZG387403J	6-5	ZW389814J	4-8
EV405657J	8-VR401	MR391968J	6-33	ZG387413J1	5-27	ZW389923J	5-6
EV405658J	8-VR404B	MT390954J1	3-9	ZG387413J1	6-27	ZW389923J	6-6
EV405658J	14-VR51	MT404547J	4-9	ZG387417J	3-44	ZW401776J	3-34
EV405659J	8-VR403	MZV1102A090A	5-25	ZG387417J	4-44	ZW401776J	4-34
EV405665J	8-VR301	MZV1102A090A	6-25	ZG387418J	3-45		
EV405665J	8-VR404A	MZV1102A100A	5-26	ZG387418J	4-45		
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EW389313J	6-20	MZ387330J	5-32	ZG387421J	3-50		
EW389313J	11-WP2	MZ387331J	5-29	ZG387421J	4-50		
EW389313J	12-WP2	MZ387332J	5-28	ZG387438J1	3-11		
EW394623J	11-WP1	MZ387332J	6-28	ZG387438J1	4-11		
EW394623J	12-WP1	MZ387333J	5-30	ZG387443J	5-34		
EW403386J1	10-WP1	MZ387333J	6-30	ZG387443J	6-34		
EW404001M	21-20A	MZ387335J	3-40	ZG387467J	3-7		
EW404002M	21-20B	MZ387335J	4-40	ZG387468J	5-4		
EW404138J1	8-WF201	MZ387351J2	4-58	ZG387468J	6-4		
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AVB1038A010A	25-2A	BV403409J	9-MD1	ED307572	9-D208	ED307572	14-D27
AVB1039A010A	25-2B	EA387496J	5-12	ED307572	9-D209	ED307572	14-D28
AVB1040A010F	25-2D	EA404543J	6-12	ED307572	9-D301	ED307572	14-D32
AVB1042A010C	25-2C	EC363490	18-C2	ED307572	9-D302	ED307572	14-D41
AVB1043A010E	25-2E	EC391843J	8-C369	ED307572	9-D305	ED307572	14-D44
BAV1130A500A	7-4A	EC391843J	9-C369	ED307572	9-D306	ED307572	14-D45
BAV1132A500A	7-4B	EC394757J	10-VC601	ED307572	9-D307	ED307572	14-D46
BAV1132A500C	7-4D	EC394757J	11-VC601	ED307572	9-D308	ED307572	14-D47
BAV1132A610G	7-2C	EC403878J	19-C4	ED307572	9-D309	ED307572	14-D48
BAV1132A610J	7-2B	EC403878J	19-C15	ED307572	9-D310	ED307572	15-D33
BAV1132A615C	7-2A	EC403880J	19-C20	ED307572	9-D401	ED307572	19-D16
BAV1135A500C	7-4E	EC406634J	18-C1	ED307572	9-D402	ED307572	19-D52
BAV1135A500E	7-4C	EC406635J	18-C3	ED307572	9-D404	ED307572	19-D54
BAV1146A635M	7-3A	EC406639J	19-C23	ED307572	9-D405	ED307572	19-D55
BAV1146A640D	7-3B	EC406639J	19-C24	ED307572	9-D408	ED307572	20-D10
BAV1146A640E	7-3C	EC408376J	19-C1	ED307572	9-D410	ED307572	20-D52
BAV1146A640F	7-3D	EC408377J	19-C2	ED307572	9-D411	ED307572	22-D1
BAV1146A640M	7-3E	EC408426J	19-C3	ED307572	9-D501	ED307572	22-D101
BAV1150A600B	7-1A	EC408426J	19-C14	ED307572	9-D502	ED307572	22-D201
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BAV1152A630E	7-3H	ED307572	8-D9	ED307572	9-D509	ED386226J	19-D11
BAV1152A630F	7-3J	ED307572	8-D10	ED307572	10-D601	ED387919J	8-D8
BAV1152Q600C	7-1G	ED307572	8-D201	ED307572	10-D603	ED387919J	9-D8
BAV1152Q600D	7-1F	ED307572	8-D202	ED307572	10-D801	ED387919J	20-D50
BAV1152Q630C	7-3G	ED307572	8-D203	ED307572	11-D601	ED390011J	5-13
BAV1152Q630D	7-3F	ED307572	8-D206	ED307572	11-D603	ED390011J	6-13
BBV1130A020C	4-70	ED307572	8-D207	ED307572	11-D801	ED390012J	5-14
BBV1130A020H	3-64	ED307572	8-D208	ED307572	11-D901	ED391005J	19-D28
BD409124J1	24-1F	ED307572	8-D209	ED307572	11-D902	ED396057J	19-D56
BD409125J1	24-1G	ED307572	8-D301	ED307572	12-D1	ED396060J	19-D27
BD409129J1	24-1H	ED307572	8-D302	ED307572	12-D2	ED397233J	8-D204
BD409284J	24-1C	ED307572	8-D305	ED307572	12-D3	ED397233J	9-D204
BD409286J	24-1B	ED307572	8-D306	ED307572	12-D4	ED403267J	8-D205
BD409287J	24-1D	ED307572	8-D307	ED307572	13-D2	ED403267J	9-D205
BD409288J	24-1E	ED307572	8-D308	ED307572	13-D12	ED403267J	19-D51
BD409297J	24-1A	ED307572	8-D309	ED307572	13-D13	ED403278J	13-D11
BLV1102A050A	3-23	ED307572	8-D401	ED307572	13-D14	ED403279J	13-D10
BLV1102A140A	3-43	ED307572	8-D402	ED307572	13-D15	ED403279J	14-D10
BLV1102A140A	4-43	ED307572	8-D404	ED307572	13-D17	ED403724J	8-D304
BLV1123A050A	4-23	ED307572	8-D405	ED307572	13-D25	ED403724J	9-D304
BLV1130A160A	4-65	ED307572	8-D408	ED307572	13-D26	ED403726J	8-D210
BL387458J2	6-37	ED307572	8-D410	ED307572	13-D27	ED403726J	9-D210
BM387503J	5-31	ED307572	8-D411	ED307572	13-D31	ED403729J	8-D412
BM387503J	6-31	ED307572	8-D501	ED307572	13-D32	ED403729J	9-D412
BM400682J1	5-9	ED307572	8-D502	ED307572	13-D33	ED403730J	8-D211
BM400682J1	6-9	ED307572	8-D503	ED307572	13-D41	ED403730J	9-D211
BM401296J1	2-8	ED307572	8-D504	ED307572	13-D43	ED403731J	8-D6
BT403873J	24-19B	ED307572	8-D505	ED307572	13-D44	ED403731J	9-D6
BT403883J	24-19C	ED307572	8-D506	ED307572	14-D2	ED403731J	14-D11
BT410491J	24-19A	ED307572	8-D507	ED307572	14-D5	ED404029J	18-D16
BVV1102A070A	3-35	ED307572	8-D508	ED307572	14-D12	ED404032J	18-D14
BVV1102A070A	4-35	ED307572	8-D509	ED307572	14-D13	ED404032J	19-D19
BVV1102A080A	3-36	ED307572	9-D1	ED307572	14-D14	ED404086J	8-D303
BVV1102A080A	4-36	ED307572	9-D2	ED307572	14-D15	ED404086J	9-D303
BVV1102A150A	3-48	ED307572	9-D3	ED307572	14-D16	ED404170J	9-D102
BVV1102A150A	4-48	ED307572	9-D4	ED307572	14-D17	ED405247J	12-D101
BVV1123A410B	2-1	ED307572	9-D5	ED307572	14-D18	ED405264J	19-D57
BVV1123A420B	2-2	ED307572	9-D7	ED307572	14-D19	ED405264J	19-D58
BV403237J	8-1A	ED307572	9-D9	ED307572	14-D20	ED405264J	20-D7
BV403240J1	8-1C	ED307572	9-D10	ED307572	14-D21	ED405373J	18-D13
BV403240J1	9-1B	ED307572	9-D201	ED307572	14-D22	ED405446J	22-D602
BV403241J1	8-1B	ED307572	9-D202	ED307572	14-D23	ED405524J	18-D15
BV403241J1	9-1A	ED307572	9-D203	ED307572	14-D24	ED405524J	19-D20
BV403408J	8-MD1A	ED307572	9-D206	ED307572	14-D25	ED405603J	8-D12
BV403409J	8-MD1B	ED307572	9-D207	ED307572	14-D26	ED405603J	9-D12

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ED405604J	8-D13	EI368825M	14-X2	EJ405226J	9-PJ101	EO356722	8-L470
ED405604J	9-D13	EI368829	16-X51	EJ408399J	14-PJ1	EO356722	9-L103
ED511907	8-D212	EI373955	13-IC3	EM401077J	13-FL1	EO356722	9-L470
ED511907	8-D213	EI373955	14-IC3	EM403367J	14-FL1	EO357508	8-L402
ED511907	9-D212	EI373957J1	13-X1	EO345865	22-L1	EO357508	9-L402
ED511907	9-D213	EI373957J1	14-X1	EO345865	22-L101	EO366893	10-VL701
ED511907	18-D1	EI373957J1	22-X101	EO345865	22-L102	EO366893	11-VL701
ED511907	18-D2	EI373980	8-IC303	EO345865	22-L121	EO376600	12-L1
ED511907	18-D3	EI373980	9-IC303	EO345865	22-L155	EO376600	12-L16
ED511907	18-D4	EI373981J1	8-IC402	EO345865	22-L201	EO376603	12-L5
ED511907	18-D5	EI373981J1	9-IC402	EO345865	22-L202	EO376605	12-L14B
ED511907	18-D6	EI381575J	20-IC1	EO345865	22-L251	EO376606	12-L4
ED511907	18-D7	EI381632J	8-X500	EO345865	22-L301	EO376607	12-L14A
ED511907	18-D8	EI381632J	9-X500	EO345871	22-L206	EO376612	12-L15
ED511907	18-D9	EI385958J	22-IC301	EO345873	22-L204	EO376614	12-L9
ED511907	18-D10	EI386468J	11-IC901	EO345874	8-L410	EO376857	12-L3
ED511907	18-D11	EI387019J	22-IC108	EO345874	9-L410	EO376858	12-L2
ED511907	18-D12	EI387586J	12-IC1	EO345874	22-L207	EO376859	12-L12
ED511907	18-D17	EI388360J	10-IC801	EO345874	22-L208	EO376860	12-L7
ED511907	18-D18	EI388360J	11-IC801	EO345875	22-L203	EO380091J1	20-L10
ED511907	19-D3	EI389622J	8-IC1	EO345876	10-L602	EO381192J	8-L403
ED511907	19-D4	EI389622J	9-IC1	EO345876	11-L602	EO381192J	9-L403
ED511907	19-D17	EI389640J	8-X301	EO345880	8-L404	EO381193J	12-L6
ED511907	19-D18	EI389640J	9-X301	EO345880	8-L472	EO381195J	8-L511
ED511907	19-D71	EI389974J	10-X601	EO345880	8-L500	EO381195J	9-L511
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ED511907	19-D73	EI394673J	22-X103	EO345880	8-L506	EO381196J	8-L301
ED511907	19-D74	EI394680J	22-IC107	EO345880	8-L509	EO381196J	9-L301
EE387604J2	8-2B	EI394856J	8-IC401	EO345880	8-L570	EO381197J	8-L512
EE387604J2	9-2A	EI394856J	9-IC401	EO345880	9-L404	EO381197J	9-L512
EE390143J2	8-2C	EI394861J	9-IC102	EO345880	9-L472	EO386541J	19-L6
EE390143J2	9-2B	EI400756J	8-IC201	EO345880	9-L500	EO387782J	16-L1
EE408471J	8-2A	EI400756J	9-IC201	EO345880	9-L502	EO387798J	16-L6
EF339908	19-FL2	EI401050J	22-IC106	EO345880	9-L505	EO387798J	17-L7B
EH366894	10-FL701	EI403234J1	8-IC400	EO345880	9-L506	EO387799J	17-L6
EH366894	11-FL701	EI403234J1	9-IC400	EO345880	9-L509	EO387799J	17-L7A
EH368816	16-CF1	EI403467J	10-X602	EO345880	9-L570	EO387800J	17-L1
EH368827	16-CF52	EI403467J	11-X602	EO345880	12-L8	EO387802J	9-L590
EH368948	16-CF3	EI403469J	10-IC602	EO345880	12-L10	EO387802J	17-L8
EH368948	17-CF3	EI403469J	11-IC602	EO345880	12-L11	EO387803J	16-L52
EH373918	16-CF4	EI403964J	9-IC103	EO345880	22-L153	EO388161J	8-L474
EH373920	17-CF2	EI405224J	22-IC102	EO345881	8-L101	EO388161J	9-L474
EH376338	16-CF2	EI405224J	22-IC103	EO345881	8-L302	EO388349J	12-FL101
EH383056J	22-IB101	EI405722J	10-IC601	EO345881	9-L101	EO388362J	10-FL801
EH383083J	13-IB2	EI405722J	11-IC601	EO345881	9-L302	EO388363J	11-FL801
EH383083J	14-IB2	EI408391J1	13-IC1	EO345881	10-L601	EO390716J	10-L802
EH386637J	22-IB102	EI408393J	13-IC2	EO345881	10-L605	EO390716J	11-L802
EH388287J	16-CF51	EI408393J	14-IC2	EO345881	10-L701	EO390716J	12-L101
EH390730J	8-DL500	EI408397J	14-IC1	EO345881	11-L601	EO390717J	10-L801
EH390730J	9-DL500	EI408432J	22-IC101	EO345881	11-L605	EO390717J	11-L801
EH394684J	22-FL101	EI408433J	22-X102	EO345881	11-L701	EO390999J	8-L1
EH394838J	9-DL501	EI408434J	22-IC104	EO345881	11-L702	EO390999J	9-L1
EH403945J	13-IB1	EI408849J	8-IC301	EO345881	11-L901	EO392817J	8-L507
EH403945J	14-IB1	EI408850J	9-IC301	EO351866	10-L603	EO392817J	9-L507
EH730625J	17-CF1	EI410125J	22-IC105	EO351866	10-L604	EO393769J	19-L9
EH780128	16-CF53	EJ381837J	5-16	EO351866	11-L603	EO396361J	16-L51
EI200573	11-IC702	EJ381837J	6-16	EO351866	11-L604	EO397238J	16-L5
EI310036	8-IC101	EJ387497J	5-15	EO353900	8-L501	EO397389J	10-L850
EI310036	9-IC101	EJ387497J	6-15	EO353900	9-L501	EO403270J	8-L510
EI310036	11-IC902	EJ387497J	13-PS2	EO353900	9-L503	EO403270J	9-L510
EI353421	8-IC302	EJ387497J	14-PS2	EO353900	9-L504	EO403937J	8-L480
EI353421	9-IC302	EJ387613J	8-PJ102	EO354600	8-L303	EO403937J	8-L508
EI356457	8-IC403	EJ387613J	9-PJ102	EO354600	8-L401	EO403937J	9-L480
EI356457	9-IC403	EJ387614J	8-PJ101	EO354600	8-L405	EO403937J	9-L508
EI360586	9-IC304	EJ387622J	14-PJ2	EO354600	8-L406	EO408381J	19-L1
EI366892	10-IC701	EJ387623J	14-PJ3	EO354600	9-L303	EO408381J	19-L2
EI366892	11-IC701	EJ389815J	13-PS1	EO354600	9-L401	EO408381J	19-L3
EI368809	16-IC1	EJ389815J	14-PS1	EO354600	9-L405	EO408381J	19-L4
EI368809	17-IC1	EJ403389J	12-PS1	EO354600	9-L406	EO410099J	22-L154
EI368825M	13-X2	EJ405225J	9-PJ103	EO356722	8-L103	EO410104J	22-L151

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ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION
A	Audio or Analogue
AC	Alternating Current
ACC	Automatic Color Control
A/C	Audio and Control
ADJ	ADJust (ment)
AFC	Automatic Frequency Control
AFT	Automatic Fine Tuning
AGC	Automatic Gain Control
AH	Audio Head
AL	ALways (voltage)
ALC	Automatic Level Control
A-SW.P	Audio SWitching Pulse
A-MUTE	Audio MUTE
ANT	ANTenna
APC	Automatic Phase Control
ASSY	ASSemblY
BAL	BALance
B DOWN	Break DOWN
BGP	Burst Gate Pulse
BLK	BLocK or BLacK
BPF	Band Pass Filter
BU	Back Up (voltage)
B/W	Black and White
C	Chroma or Color
CCD	Charge Coupled Device
CCIR	Comité Consultatif International des Radio communications
CH (ch)	CHannel (channel)
CLK	CLocK
CM	Capstan Motor
CN	CoNnector
COMP	COMParator
CSW	Cassette SWitch
CSYNC	Composite SYNC
CTL	ConTrol
CUE	CUE
DAC	Digital to Analog Converter
DC	Direct Current
DEMOD	DEMODulator
DET	DETetct (DETector)
DL	Delay Line
DM	Drum Motor
DOC	Drop Out Compensator
D.P.E	Drum Phase Error
D.PG	Drum Pulse Generator
EE	Electronic to Electronic
EF	Emitter Follower
EMPHA	EMPHAsis
ENV	ENVelope
EP	Extended Play
EP ROM	Erasable Programmable ROM
EQ	EQualizer
FE	Full track Erase
FF	Flip-Flop or Fast Foward
FG	Frequency Generator
Fig	Figure
FLD	FLuorescent Display
FM	Frequency Modulation
Fo	resonance Frequency
FREQ	FREQuency
GND	GrouND
H	Horizontal
HP	Horizontal (sync) pulse
HPF	High Pass Filter
HQ	High Quality System
IC	Integrated Circuit
ID	IDentification
IDL	IDLe (Voltage)
IMS	Interactive Monitor System
INS	INSert
INV	INVerter
L	Left
LED	Light Emitting Diode
LIM	LIMitter
LM	Loading Motor
LM STP	Loading Motor STop
LP	Long Play
LPF	Low Pass Filter
ME-SECAM	Middle East SECAM
MI-COM	MIcro COMputer
MM	Mono-stayble Multi
MOD	MODulator
MRS	Motor ReverSe
NG	Noise Gate
NICAM	Near Instanteneous Compand Audio Multiplex
NON-LIN	NON-LINear
N.T.S.C.	National Television System Committee
OSC	OSCillator
PAL	Phase Alternation by Line
PB	Play Back
PCB (P.C.B)	Printed Circuit Board
P-COM	Phase-COMparator
P DOWN	Power DOWN
PG	Pulse Generator
P.I.P	Picture In Picture
PL, PLG	PLunger (PLunGer)
PRG (PGM)	PRoGram (ProGraM)
PU	Pick UP (head, pulse)
PWR	PoWeR
Q	Quality factor
R	Right
RAM	Random Access Memory
REC	RECord
REF	REFerence
REF-V	REFerence Vertical signal
REG	REGulator
REV (REVW)	REView (REVieW)
REW	REWind
RF	Radio Frequency
ROM	Read Only Memory
R.S SW	Record-Safety SWitch
RST (RES)	ReSet (RESet)
RVS	ReVerSe
S	Sensor, Shield
SAW	Surface Acoustic Wave
SC	SimulCast
S CLK	Serial CLocK
SECAM	SÉquentiel Couleur À Mémoire
S & H	Sample and Hold
SLP	Super Long Play
SP	Standard Play
SPD	SPeeD
SRP	Supply Reel Pulse
SRV	SeRVo
SOW	Sync On Word
STBY	STandBY
S.VHS	Super VHS
SW	SWitch
SW'NG	SWitchiNG
SWP	SWitching Pulse
SYNC	SYNChronize
T-AUDIO	Tuner AUDIO
TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
TRK	TRacKing
TRP	Take up Reel Pulse
T/U	Take Up
TV	TeleVision
UHF	Ultra High Frequency
UNR	UNRegulated (voltage)
V	Vertical or Video
VASS	Video Address Search System
VCO	Voltage Controlled Oscillator
VH	Video Head
VHF	Very High Frequency
VHS	Video Home System
VIF	Video Intermediate Frequency
VISS	Video Index Search System
VJ	Video Judge
VM	Voltage for Memory
VOB	Video On Blank
VOW	Video On Word
VP	Vertical (sync) Pulse
VPS	Video Program System
VPT	Video Programming by video Text
VT	Voltage for Tuning
WHT	WHiTe
Y	Luminance
2H	2 Hour (SP)
4H	4 Hour (LP)
6H	6 Hour (SLP/EP)

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MODEL **VS-F440**EA/EDG/EDI/EK/EM/EO/EOH/EOG-V
MODEL **VS-F441**EA, **F450**EOH, **F455**EOH
MODEL **VS-F480**EK-V/EOG-V
MODEL **VS-F490**EM/EO/EOH/ES, **F497**EOH

SCHEMATIC DIAGRAMS AND PC BOARDS

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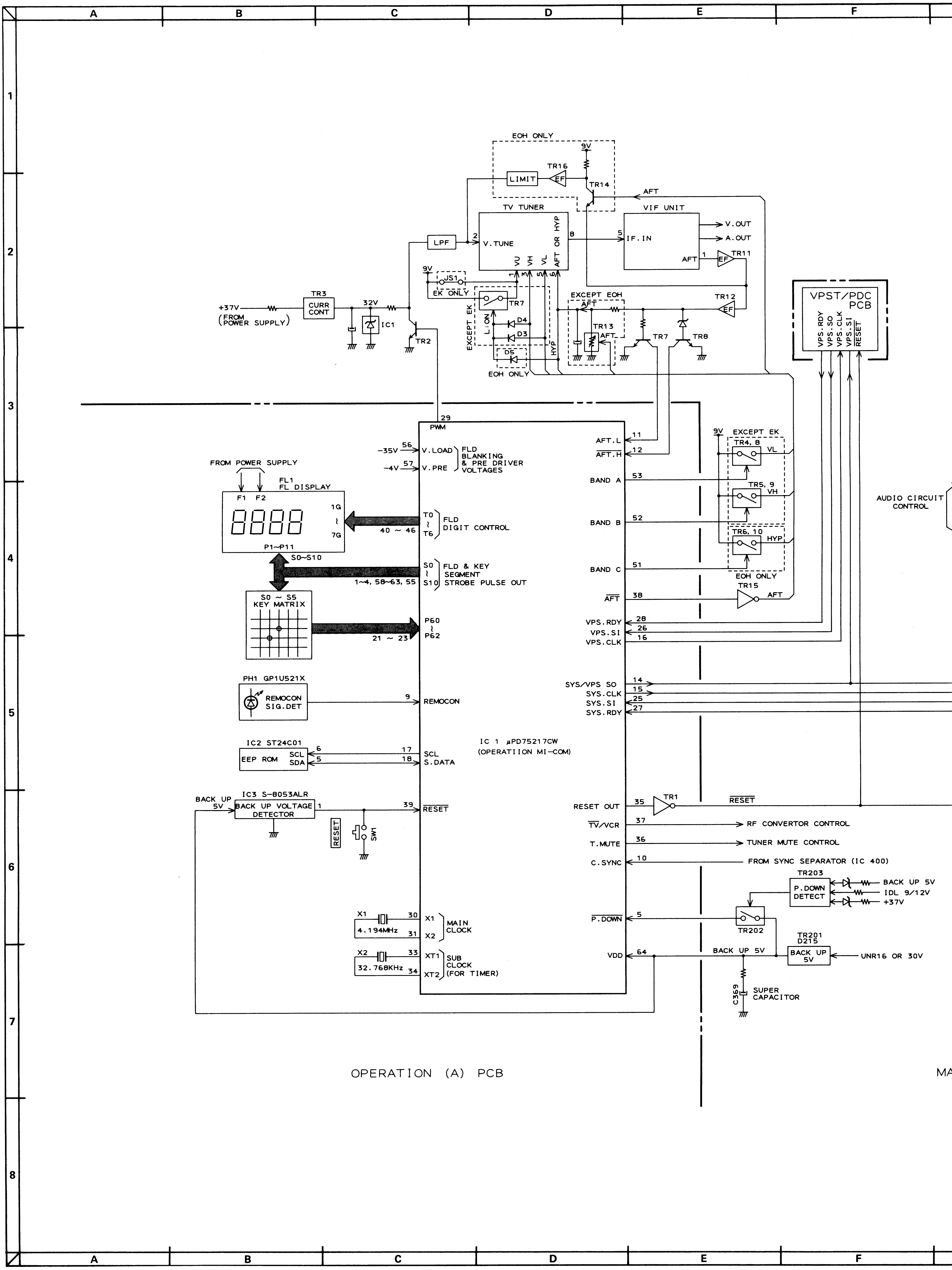
IV. INFORMATION OF ICs 50

Use these schematic diagrams and PC boards together with the provided service manual.

CATEGORY CODES USED IN THIS MANUAL

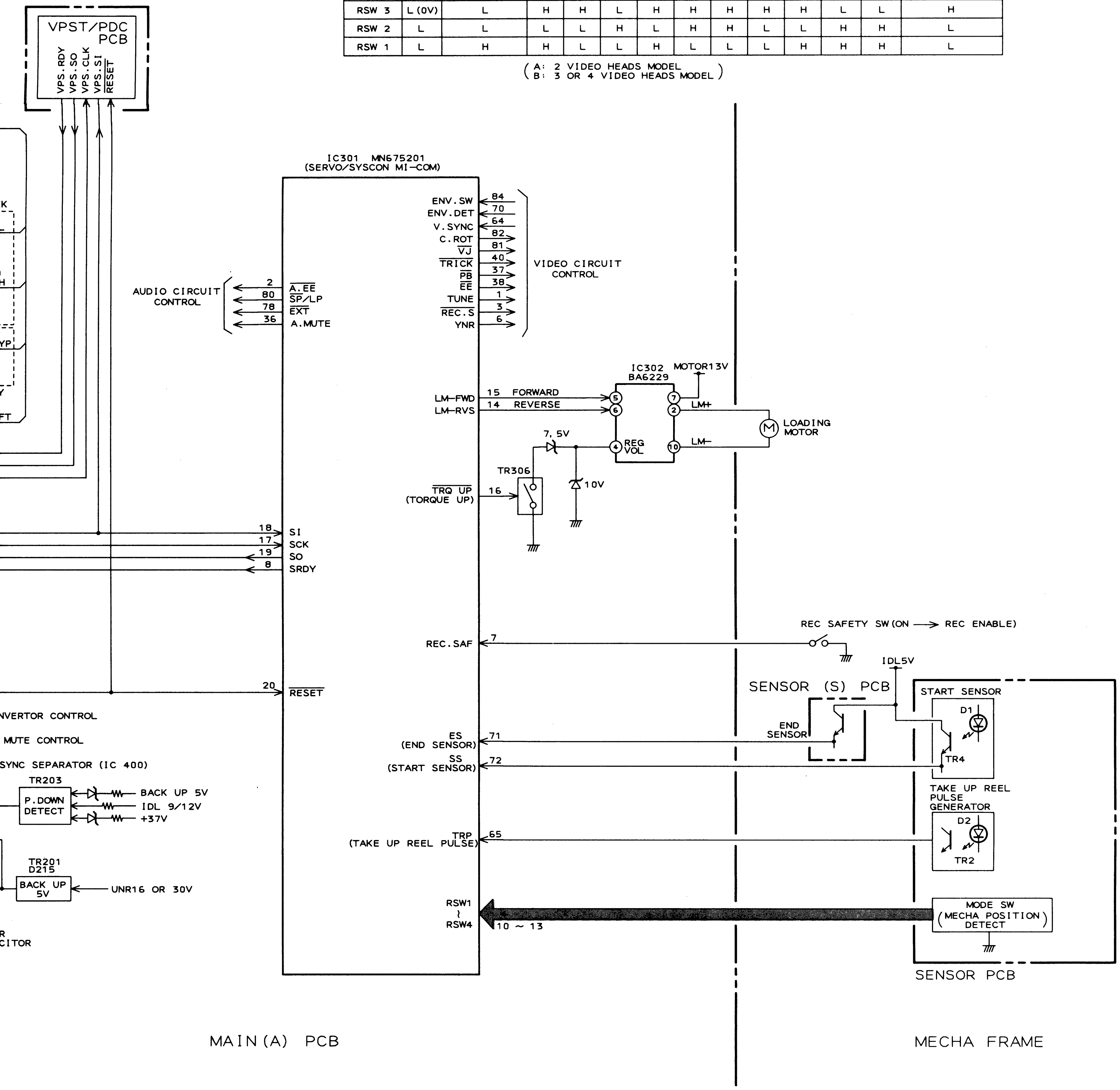
CATEGORY CODE	TYPE	MODEL NUMBER
JBX	2 VIDEO HEAD TYPE	
JLX	3 VIDEO HEAD TYPE	
JLX-L	3 VIDEO HEAD L-TYPE	
JFX-L	4 VIDEO HEAD L-TYPE	VS-F440EA/EDG/EDI/EK/EM/EO/EOG-V/EOH VS-F441EA VS-F450EOH VS-F455EOH
JFX	4 VIDEO HEAD	VS-F480EK-V/EOG-V VS-F490EM/EO/EOH/ES VS-F497EOH
JTX	4 VIDEO HEAD & Hi-Fi STEREO TYPE	


EOH ONLY
9V
LIMIT
TR16
EF
TR14
AFT
TV TUNER
VIF UNIT
LPF
V.TUNE
VU VH VL AFT OR HYP
IF.IN
V.OUT
A.OUT
AFT
EF TR11
9V
JS1
EK ONLY
EXCEPT EK
L:ON
TR7
D4
D3
D5
EOH ONLY
HYP
EXCEPT EOH
AFT
TR13
AFT
TR7
TR8
TR12
EF
TR3
CURR CONT
+37V
(FROM POWER SUPPLY)
32V
IC1
TR2
VPST/PDC PCB
VPS.RDY
VPS.SO
VPS.CLK
VPS.SI
RESET
29
PWM
-35V
56
V.LOAD
-4V
57
V.PRE
FLD BLANKING & PRE DRIVER VOLTAGES
AFT.L
11
AFT.H
12
FROM POWER SUPPLY
FL1 FL DISPLAY
F1 F2
1G ~ 7G
P1~P11
T0 ~ T6
40 ~ 46
FLD DIGIT CONTROL
BAND A
53
BAND B
52
BAND C
51
9V
EXCEPT EK
TR4, 8
VL
TR5, 9
VH
TR6, 10
HYP
EOH ONLY
TR15
AFT
AUDIO CIRCUIT CONTROL
S0~S10
S0 ~ S10
1~4, 58~63, 55
FLD & KEY SEGMENT STROBE PULSE OUT
S0 ~ S5 KEY MATRIX
P60 ~ P62
21 ~ 23
AFT
38
VPS.RDY
28
VPS.SI
26
VPS.CLK
16
PH1 GP1U521X
REMOCON SIG.DET
9
REMOCON
SYS/VPS SO
14
SYS.CLK
15
SYS.SI
25
SYS.RDY
27
IC2 ST24C01
EEP ROM
SCL
SDA
6
5
17
18
SCL
S.DATA
IC 1 µPD75217CW
(OPERATIION MI-COM)
BACK UP 5V
IC3 S-8053ALR
BACK UP VOLTAGE DETECTOR
1
39
RESET
RESET
SW1
RESET OUT
35
TR1
RESET
TV/VCR
37
RF CONVERTOR CONTROL
T.MUTE
36
TUNER MUTE CONTROL
C.SYNC
10
FROM SYNC SEPARATOR (IC 400)
TR203
P.DOWN DETECT
BACK UP 5V
IDL 9/12V
+37V
P.DOWN
5
TR202
X1
4.194MHz
30
31
X1
X2
MAIN CLOCK
X2
32.768KHz
33
34
XT1
XT2
SUB CLOCK (FOR TIMER)
VDD
64
BACK UP 5V
TR201 D215
BACK UP 5V
UNR16 OR 30V
C369
SUPER CAPACITOR
OPERATION (A) PCB
MA
A B C D E F
1 2 3 4 5 6 7 8

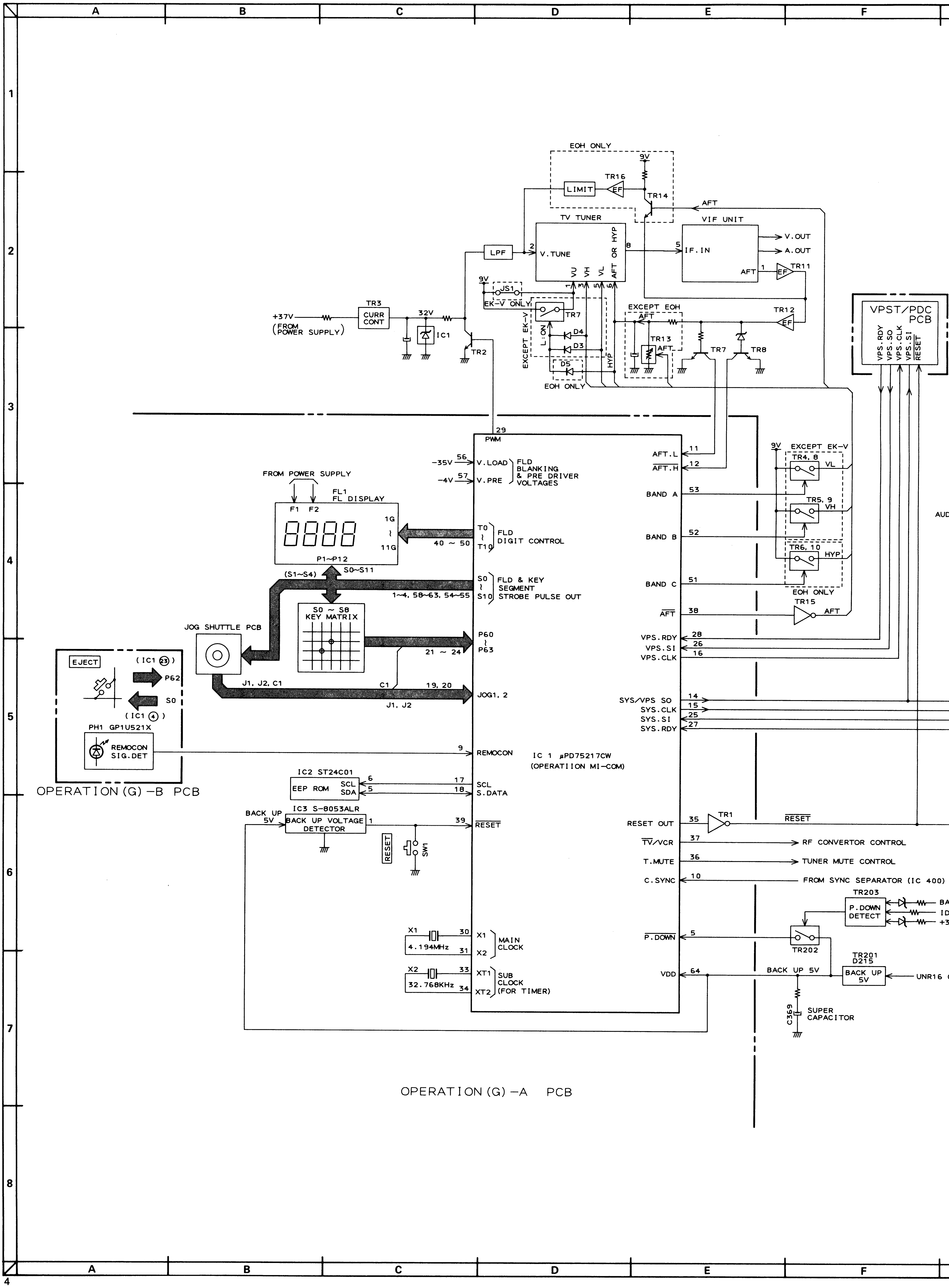
MODE SWITCH TRUTH TABLE

MODE / OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY		PLAY		REVIEW		CUE		FF	REW	POWER OFF (WITH CASSETTE)
			A	B	A	B	A	B	A	B			
RSW 4	H (5V)	L	L	L	L	L	L	H	L	L	L	L	H
RSW 3	L (0V)	L	H	H	L	H	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L	L	H	H	L
RSW 1	L	H	H	L	L	H	L	L	L	H	H	H	L

(A: 2 VIDEO HEADS MODEL
B: 3 OR 4 VIDEO HEADS MODEL)


VPST/PDC PCB
VPS.RDY
VPS.SO
VPS.CLK
VPS.SI
RESET
K
H
YP
Y
FT
IC301 MN675201
(SERVO/SYSCON MI-COM)
AUDIO CIRCUIT CONTROL
2 A.EE
80 SP/LP
78 EXT
36 A.MUTE
ENV.SW 84
ENV.DET 70
V.SYNC 64
C.ROT 82
VJ 81
TRICK 40
PB 37
EE 38
TUNE 1
REC.S 3
YNR 6
VIDEO CIRCUIT CONTROL
IC302 BA6229
MOTOR13V
LM-FWD 15 FORWARD
LM-RVS 14 REVERSE
LM+
LM-
REG VOL
LOADING MOTOR
M
7.5V
10V
TR306
TRQ UP (TORQUE UP) 16
18 SI
17 SCK
19 SO
8 SRDY
20 RESET
NVERTOR CONTROL
MUTE CONTROL
SYNC SEPARATOR (IC 400)
TR203
P.DOWN DETECT
BACK UP 5V
IDL 9/12V
+37V
TR201 D215
BACK UP 5V
UNR16 OR 30V
R
CITOR
REC SAFETY SW (ON ⟶ REC ENABLE)
REC.SAF 7
IDL5V
SENSOR (S) PCB
END SENSOR
START SENSOR
D1
TR4
ES (END SENSOR) 71
SS (START SENSOR) 72
TAKE UP REEL PULSE GENERATOR
D2
TR2
TRP (TAKE UP REEL PULSE) 65
RSW1 ~ RSW4
10 ~ 13
MODE SW (MECHA POSITION DETECT)
SENSOR PCB
MAIN (A) PCB
MECHA FRAME

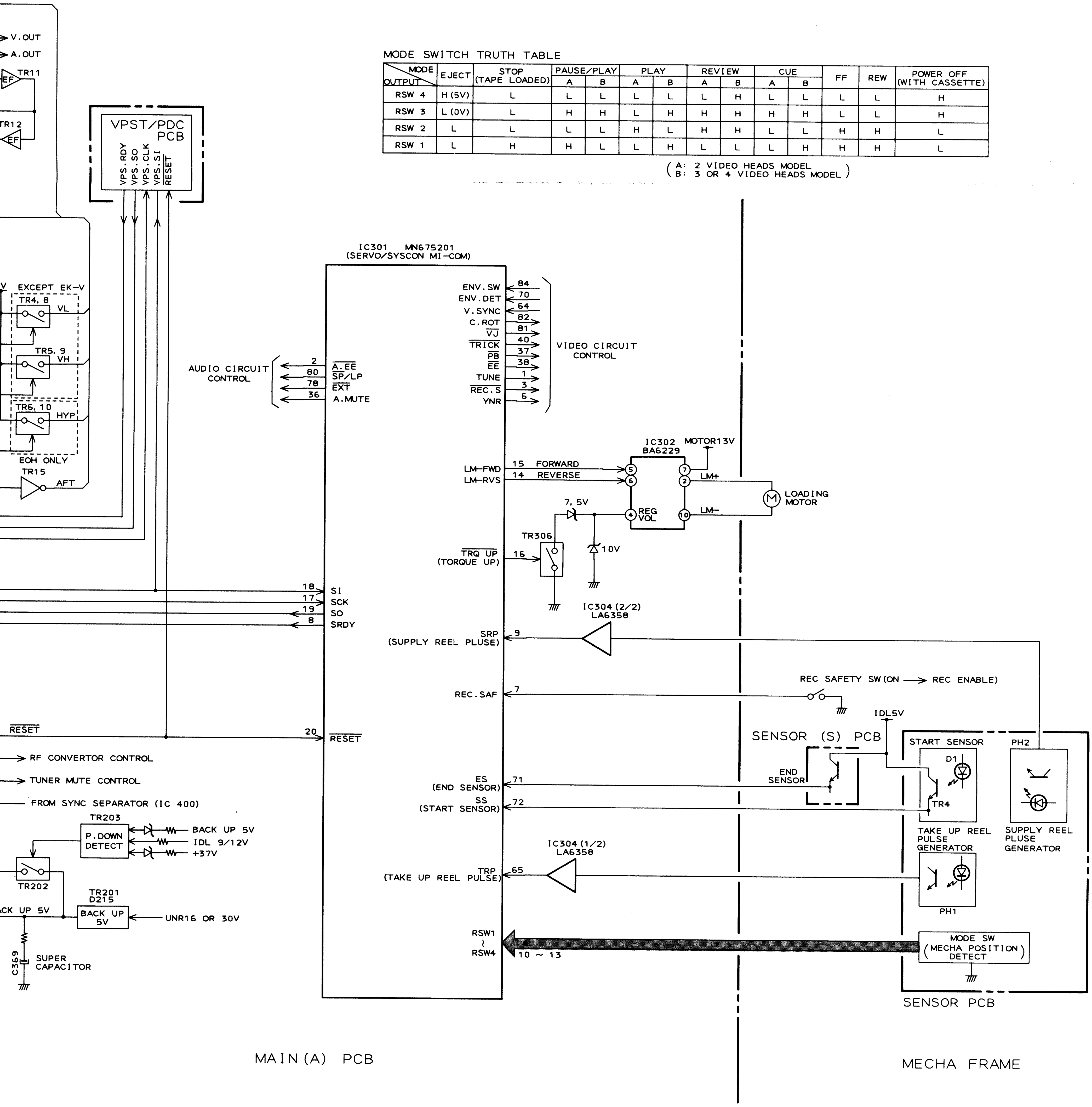
JFX-L
OPERATION (A) & SYSCON
BLOCK DIAGRAM
No.7-1 V115251M A2


A
B
C
D
E
F
1
2
3
4
5
6
7
8
EOH ONLY
9V
TR16
LIMIT
EF
TR14
AFT
TV TUNER
VIF UNIT
V.TUNE
AFT OR HYP
8
5
IF.IN
V.OUT
A.OUT
AFT
TR11
LPF
VU
VH
VL
1
3
5
6
9V
JS1
EK-V ONLY
TR7
EXCEPT EK-V
L:ON
D4
D3
D5
HYP
EOH ONLY
EXCEPT EOH
AFT
TR13
TR12
EF
TR7
TR8
+37V
(FROM POWER SUPPLY)
TR3
CURR CONT
32V
IC1
TR2
VPST/PDC PCB
VPS.RDY
VPS.SO
VPS.CLK
VPS.SI
RESET
29
PWM
-35V
56
V.LOAD
-4V
57
V.PRE
FLD BLANKING & PRE DRIVER VOLTAGES
FROM POWER SUPPLY
F1
F2
FL1
FL DISPLAY
1G
11G
P1~P12
T0 ~ T10
FLD DIGIT CONTROL
40 ~ 50
(S1~S4)
S0~S11
S0 ~ S10
FLD & KEY SEGMENT STROBE PULSE OUT
1~4, 58~63, 54~55
S0 ~ S8 KEY MATRIX
JOG SHUTTLE PCB
P60 ~ P63
21 ~ 24
C1
19, 20
J1, J2, C1
JOG1, 2
J1, J2
EJECT
(IC1 ㉓)
P62
S0
(IC1 ④)
PH1 GP1U521X
REMOCON SIG.DET
OPERATION(G)-B PCB
9
REMOCON
IC 1 µPD75217CW
(OPERATIION MI-COM)
IC2 ST24C01
EEP ROM
SCL
SDA
6
5
17
18
SCL
S.DATA
BACK UP 5V
IC3 S-8053ALR
BACK UP VOLTAGE DETECTOR
1
39
RESET
RESET
SW1
X1
4.194MHz
30
31
X1
X2
MAIN CLOCK
X2
32.768KHz
33
34
XT1
XT2
SUB CLOCK (FOR TIMER)
AFT.L
11
AFT.H
12
9V
EXCEPT EK-V
TR4, 8
VL
BAND A
53
TR5, 9
VH
BAND B
52
TR6, 10
HYP
BAND C
51
EOH ONLY
TR15
AFT
38
AFT
AUD
VPS.RDY
28
VPS.SI
26
VPS.CLK
16
SYS/VPS SO
14
SYS.CLK
15
SYS.SI
25
SYS.RDY
27
RESET OUT
35
TR1
RESET
TV/VCR
37
RF CONVERTOR CONTROL
T.MUTE
36
TUNER MUTE CONTROL
C.SYNC
10
FROM SYNC SEPARATOR (IC 400)
TR203
P.DOWN DETECT
BA
ID
+3
P.DOWN
5
TR202
VDD
64
BACK UP 5V
TR201
D215
BACK UP 5V
UNR16
C369
SUPER CAPACITOR
OPERATION(G)-A PCB

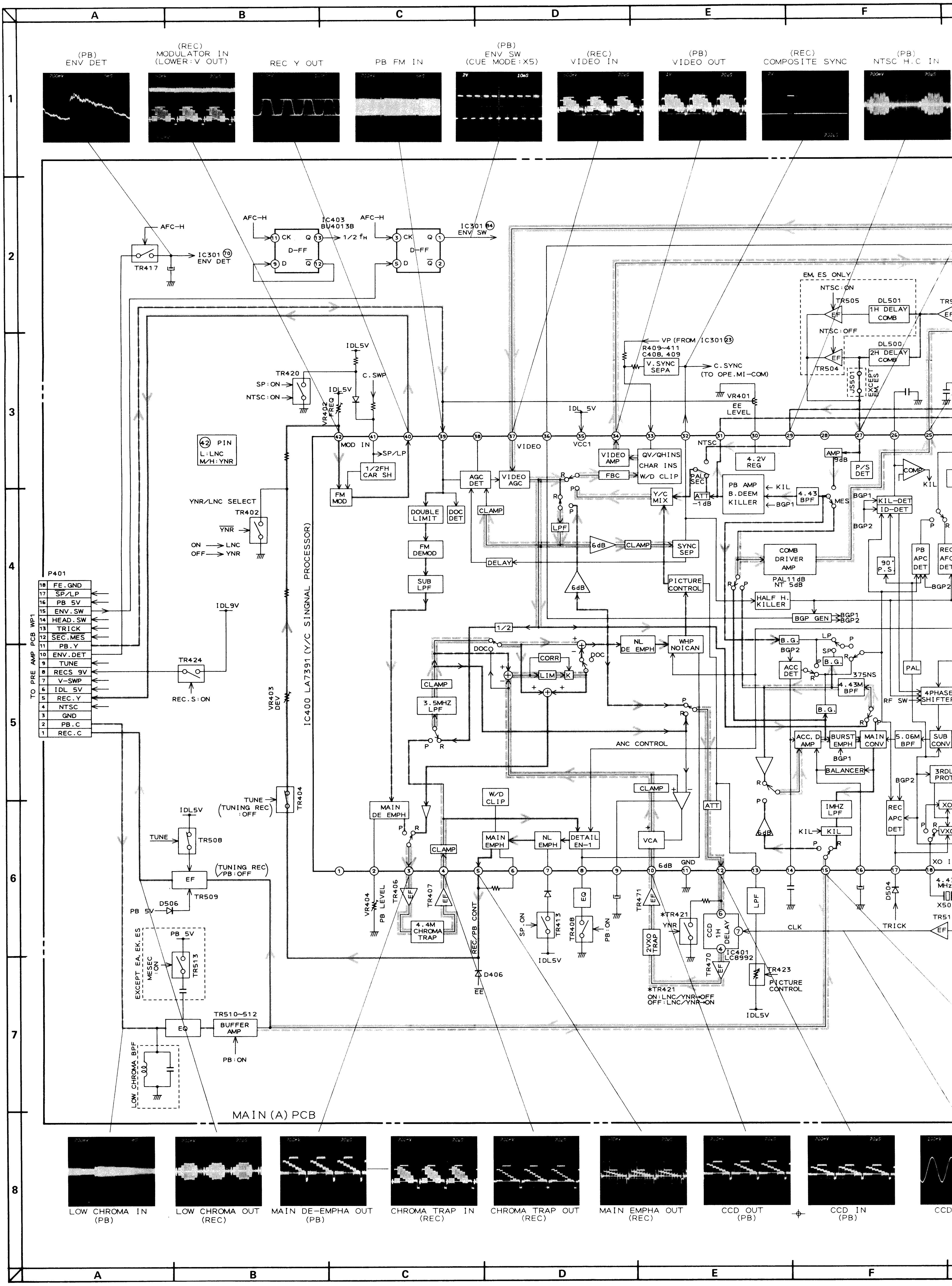
MODE SWITCH TRUTH TABLE

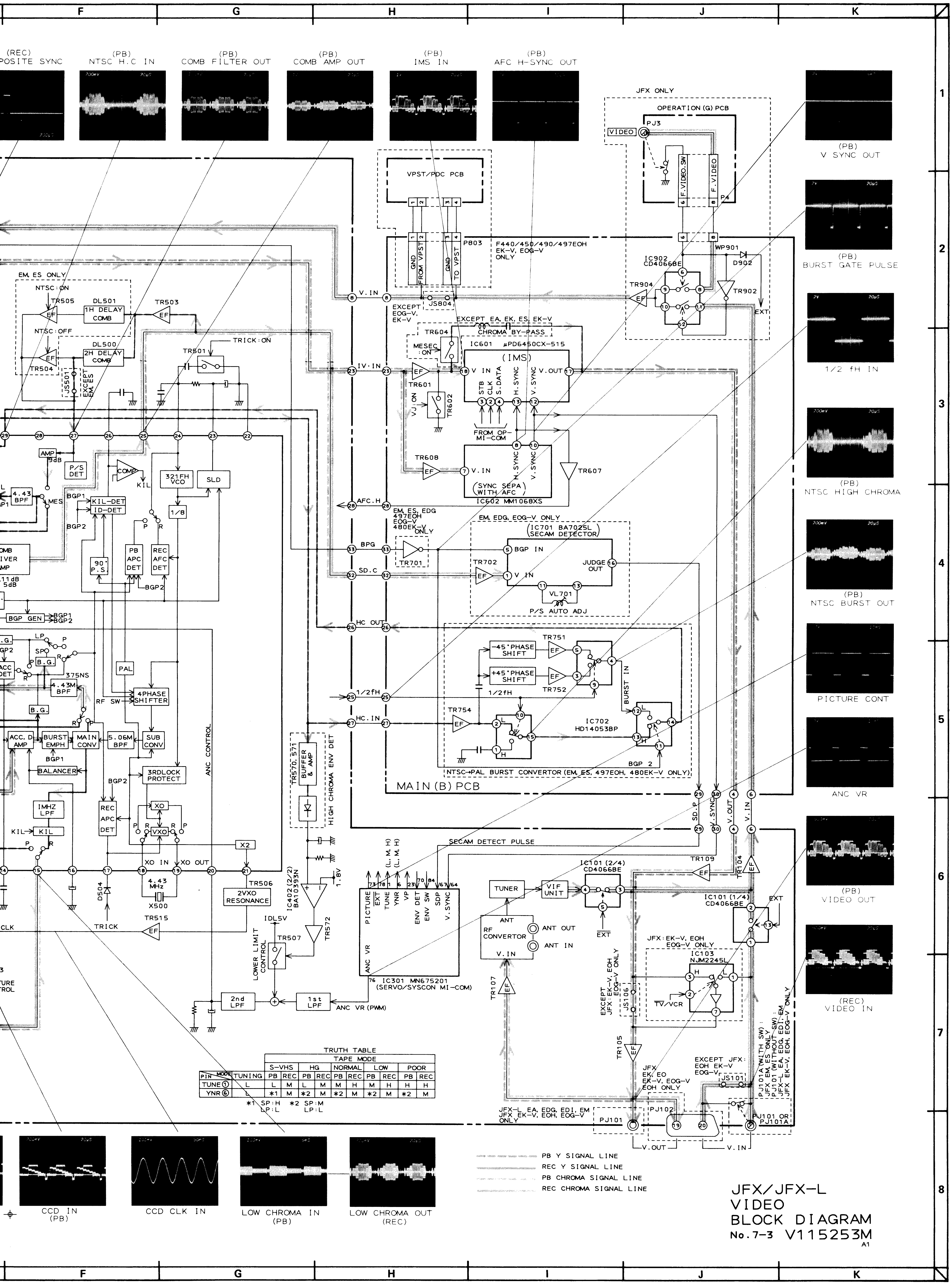
MODE / OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY		PLAY		REVIEW		CUE		FF	REW	POWER OFF (WITH CASSETTE)
			A	B	A	B	A	B	A	B			
RSW 4	H (5V)	L	L	L	L	L	L	H	L	L	L	L	H
RSW 3	L (0V)	L	H	H	L	H	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L	L	H	H	L
RSW 1	L	H	H	L	L	H	L	L	L	H	H	H	L

(A: 2 VIDEO HEADS MODEL
B: 3 OR 4 VIDEO HEADS MODEL)


V.OUT
A.OUT
TR11
EF
TR12
EF
VPST/PDC PCB
VPS.RDY
VPS.SO
VPS.CLK
VPS.SI
RESET
EXCEPT EK-V
TR4, 8
VL
TR5, 9
VH
TR6, 10
HYP
EOH ONLY
TR15
AFT
IC301 MN675201
(SERVO/SYSCON MI-COM)
AUDIO CIRCUIT CONTROL
2
80
78
36
A.EE
SP/LP
EXT
A.MUTE
ENV.SW
ENV.DET
V.SYNC
C.ROT
VJ
TRICK
PB
EE
TUNE
REC.S
YNR
84
70
64
82
81
40
37
38
1
3
6
VIDEO CIRCUIT CONTROL
LM-FWD
LM-RVS
15 FORWARD
14 REVERSE
IC302 BA6229
MOTOR13V
5
6
7
2
4
10
LM+
LM-
REG VOL
LOADING MOTOR
7, 5V
TR306
10V
TRQ UP
(TORQUE UP)
16
18
17
19
8
SI
SCK
SO
SRDY
IC304 (2/2)
LA6358
SRP
(SUPPLY REEL PLUSE)
9
REC SAFETY SW (ON → REC ENABLE)
REC.SAF
7
RESET
20
RESET
IDL5V
SENSOR (S) PCB
END SENSOR
START SENSOR
D1
TR4
PH2
ES
(END SENSOR)
71
SS
(START SENSOR)
72
TAKE UP REEL PULSE GENERATOR
SUPPLY REEL PLUSE GENERATOR
RF CONVERTOR CONTROL
TUNER MUTE CONTROL
FROM SYNC SEPARATOR (IC 400)
TR203
P.DOWN DETECT
BACK UP 5V
IDL 9/12V
+37V
TR202
IC304 (1/2)
LA6358
TRP
(TAKE UP REEL PULSE)
65
PH1
TR201
D215
BACK UP 5V
UNR16 OR 30V
CK UP 5V
C369
SUPER CAPACITOR
RSW1 ~ RSW4
10 ~ 13
MODE SW (MECHA POSITION DETECT)
SENSOR PCB
MAIN (A) PCB
MECHA FRAME

JFX
OPERATION (G) & SYSCON
BLOCK DIAGRAM
No.7-2 V115252M
A2


A
B
C
D
E
F
1
2
3
4
5
6
7
8
(PB) ENV DET
(REC) MODULATOR IN (LOWER:V OUT)
REC Y OUT
PB FM IN
(PB) ENV SW (CUE MODE:X5)
(REC) VIDEO IN
(PB) VIDEO OUT
(REC) COMPOSITE SYNC
(PB) NTSC H.C IN
AFC-H
TR417
IC301 (70) ENV DET
IC403 BU4013B
CK
D-FF
Q
1/2 fH
IC301 (84) ENV SW
EM, ES ONLY
NTSC:ON
TR505
DL501
1H DELAY COMB
NTSC:OFF
DL500
2H DELAY COMB
TR504
JS501
EXCEPT EM,ES
VP (FROM IC301 (23)
R409~411
C408, 409
V.SYNC SEPA
C.SYNC (TO OPE.MI-COM)
IDL5V
TR420
SP:ON
NTSC:ON
C.SWP
VR402 FREQ
VR401
EE LEVEL
IDL 5V
(42) PIN
L:LNC
M/H:YNR
MOD IN
SP/LP
1/2FH CAR SH
FM MOD
VIDEO
VCC1
NTSC
VIDEO AMP
QV/QHINS
CHAR INS
W/D CLIP
4.2V REG
AMP
9dB
P/S DET
COMP
KIL
AGC DET
VIDEO AGC
FBC
Y/C MIX
PAL SEC
ATT -1dB
PB AMP B.DEEM KILLER
4.43 BPF
MES
BGP1
KIL-DET
ID-DET
BGP2
YNR/LNC SELECT
TR402
YNR
ON → LNC
OFF → YNR
DOUBLE LIMIT
DOC DET
CLAMP
LPF
6dB
SYNC SEP
COMB DRIVER AMP
PAL11dB
NT 5dB
90° P.S.
PB APC DET
REC AFC DET
FM DEMOD
DELAY
PICTURE CONTROL
HALF H. KILLER
BGP GEN
SUB LPF
P401
FE.GND
SP/LP
PB 5V
ENV.SW
HEAD.SW
TRICK
SEC.MES
PB.Y
ENV.DET
TUNE
RECS 9V
V-SWP
IDL 5V
REC.Y
NTSC
GND
PB.C
REC.C
TO PRE AMP PCB WP1
IDL9V
TR424
REC.S:ON
IC400 LA7391 (Y/C SINGNAL PROCESSOR)
VR403 DEV
1/2
DOC
CORR
LIM
K
NL DE EMPH
WHP NOICAN
B.G.
LP
SP
ACC DET
375NS
4.43M BPF
PAL
4PHASE SHIFTER
RF SW
3.5MHZ LPF
ANC CONTROL
ACC, D AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RD PROT
XO
VXO
TUNE (TUNING REC :OFF)
TR404
TR508
EF
TR509
(TUNING REC /PB:OFF)
D506
PB 5V
MAIN DE EMPH
W/D CLIP
MAIN EMPH
NL EMPH
DETAIL EN-1
VCA
ATT
IMHZ LPF
KIL
REC APC DET
GND
6dB
VR404 PB LEVEL
TR406
TR407
4.4M CHROMA TRAP
REC/PB CONT
D406
EE
SP:ON
TR413
TR408
PB:ON
EQ
TR471
*TR421
YNR
2VXO TRAP
CCD 1H DELAY
IC401 LC8992
TR470
TR423
PICTURE CONTROL
LPF
CLK
TRICK
D504
TR51
4.4 MHz
X50
EXCEPT EA, EK, ES
MESEC :ON
TR513
TR510~512
BUFFER AMP
PB:ON
LOW CHROMA BPF
*TR421
ON:LNC/YNR→OFF
OFF:LNC/YNR→ON
IDL5V
MAIN (A) PCB
LOW CHROMA IN (PB)
LOW CHROMA OUT (REC)
MAIN DE-EMPHA OUT (PB)
CHROMA TRAP IN (REC)
CHROMA TRAP OUT (REC)
MAIN EMPHA OUT (REC)
CCD OUT (PB)
CCD IN (PB)
CCD



F
G
H
I
J
K
1
2
3
4
5
6
7
8
(REC) POSITE SYNC
(PB) NTSC H.C IN
(PB) COMB FILTER OUT
(PB) COMB AMP OUT
(PB) IMS IN
(PB) AFC H-SYNC OUT
(PB) V SYNC OUT
(PB) BURST GATE PULSE
1/2 fH IN
(PB) NTSC HIGH CHROMA
(PB) NTSC BURST OUT
PICTURE CONT
ANC VR
(PB) VIDEO OUT
(REC) VIDEO IN
CCD IN (PB)
CCD CLK IN
LOW CHROMA IN (PB)
LOW CHROMA OUT (REC)
JFX ONLY
OPERATION (G) PCB
VIDEO
PJ3
F.VIDEO.SW
F.VIDEO
P4
VPST/PDC PCB
GND
FROM VPST
TO VPST
P803
F440/450/490/497EOH EK-V, EOG-V ONLY
WP901
D902
IC902 CD4066BE
TR904
TR902
EXT
EM, ES ONLY
NTSC:ON
TR505
DL501 1H DELAY COMB
TR503
NTSC:OFF
DL500 2H DELAY COMB
TR504
JS501
EXCEPT EM, ES
TRICK:ON
TR501
V.IN
EXCEPT EOG-V, EK-V
JS804
EXCEPT EA, EK, ES, EK-V
CHROMA BY-PASS
TR604
MESEC: ON
IC601 μPD6450CX-515
(IMS)
V IN
V.OUT
STB
CLK
S.DATA
H.SYNC
V.SYNC
IV·IN
TR601
VJ:ON
TR602
FROM OP-MI-COM
TR608
V.IN
H.SYNC
V.SYNC
(SYNC SEPA WITH AFC)
IC602 MM1068XS
TR607
AMP 9dB
P/S DET
COMP
KIL
321FH VCO
SLD
1/8
4.43 BPF
MES
BGP1
KIL-DET
ID-DET
BGP2
P
R
PB APC DET
REC AFC DET
90° P.S.
BGP2
COMB DRIVER AMP
11dB
5dB
BGP GEN
BGP1
BGP2
AFC.H
EM, ES, EDG 497EOH EOG-V 480EK-V ONLY
BPG
TR701
SD.C
EM, EDG, EOG-V ONLY
IC701 BA7025L SECAM DETECTOR
BGP IN
JUDGE OUT
TR702
V IN
VL701
P/S AUTO ADJ
HC OUT
TR751
-45° PHASE SHIFT
+45° PHASE SHIFT
TR752
1/2fH
BURST IN
TR754
IC702 HD14053BP
HC.IN
BGP 2
NTSC→PAL BURST CONVERTOR (EM, ES, 497EOH, 480EK-V ONLY)
MAIN (B) PCB
LP
SP
B.G.
ACC DET
375NS
4.43M BPF
PAL
4PHASE SHIFTER
RF SW
ACC. D AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BGP1
BALANCER
3RDLOCK PROTECT
ANC CONTROL
BGP2
1MHZ LPF
REC APC DET
XO
VXO
KIL
X2
XO IN
XO OUT
4.43 MHz
X500
D504
TRICK
TR506
2VXO RESONANCE
TR515
CLK
TURE TROL
TR570, 571 BUFFER & AMP
HIGH CHROMA ENV DET
IC402 (2/2) BA10393N
1.8V
IDL5V
TR507
TR572
LOWER LIMIT CONTROL
2nd LPF
1st LPF
ANC VR (PWM)
(L, M, H)
(L, M, H)
PICTURE
EXT
TUNE
YNR
VP
ENV DET
ENV SW
SDP
V.SYNC
ANC VR
IC301 MN675201 (SERVO/SYSCON MI-COM)
SECAM DETECT PULSE
SD.P
V.SYNC
V.OUT
V.IN
TR109
TR104
TUNER
VIF UNIT
IC101 (2/4) CD4066BE
EXT
ANT
RF CONVERTOR
ANT OUT
ANT IN
IC101 (1/4) CD4066BE
JFX: EK-V, EOH EOG-V ONLY
IC103 NJM2245L
TV/VCR
EXCEPT JFX EK-V, EOH EOG-V ONLY
JS106
TR107
TR105
JFX, EO EK-V, EOG-V EOH ONLY
EXCEPT JFX: EOH EK-V EOG-V
JS101
PJ101A (WITH SW): JFX EM, ES ONLY
PJ101 (WITHOUT SW): JFX-L EA, EDG, EDI, EM JFX EK-V, EOH, EOG-V ONLY
JFX-L EA, EDG, EDI, EM JFX EK-V, EOH, EOG-V ONLY
PJ101
PJ102
PJ101 OR PJ101A
V.OUT
V.IN

TRUTH TABLE

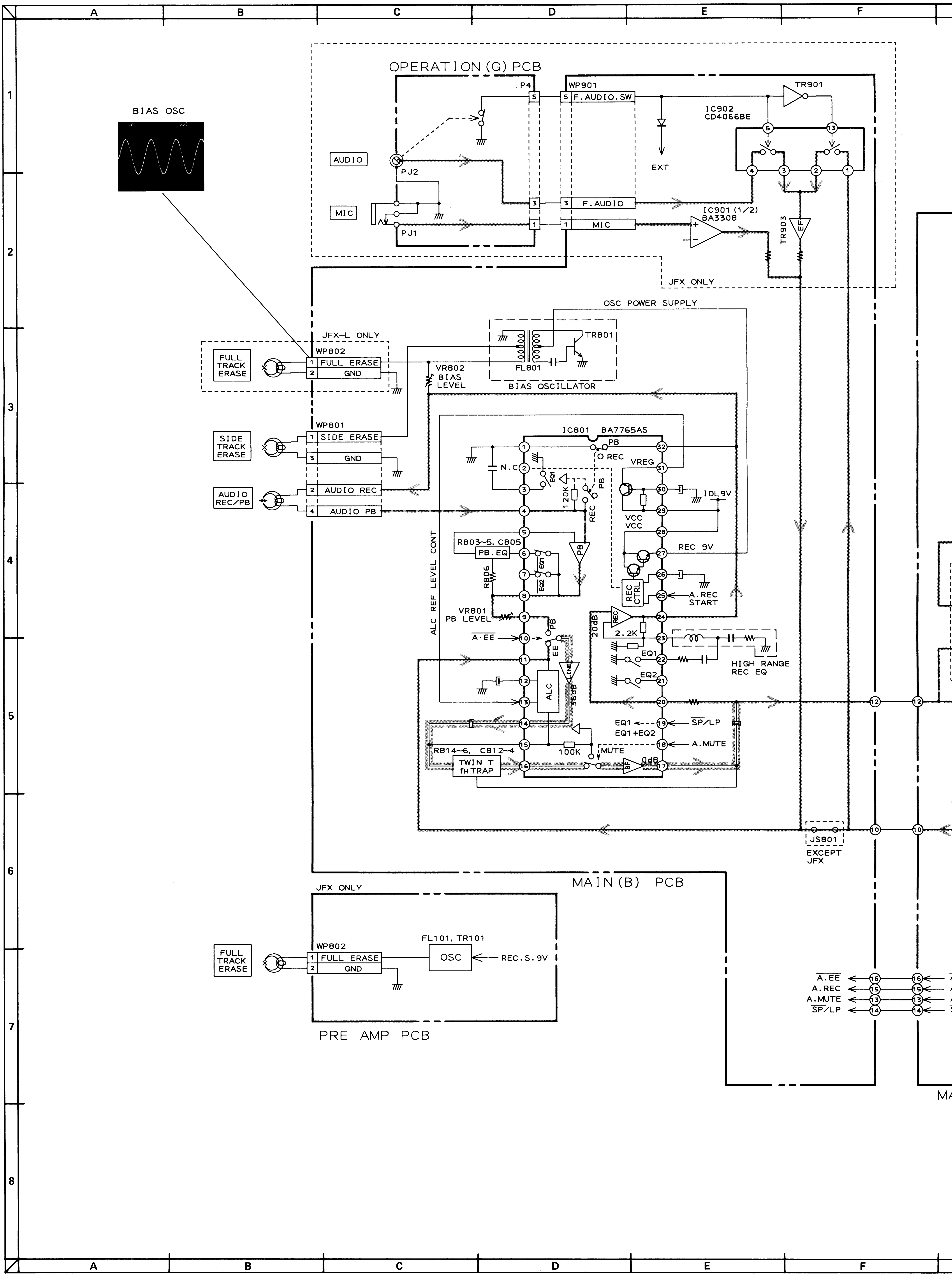
PIN \ MODE	TUNING	TAPE MODE S-VHS PB	S-VHS REC	HG PB	HG REC	NORMAL PB	NORMAL REC	LOW PB	LOW REC	POOR PB	POOR REC
TUNE ①	L	L	M	L	M	M	H	M	H	H	H
YNR ⑥	L	*1	M	*2	M	*2	M	*2	M	*2	M

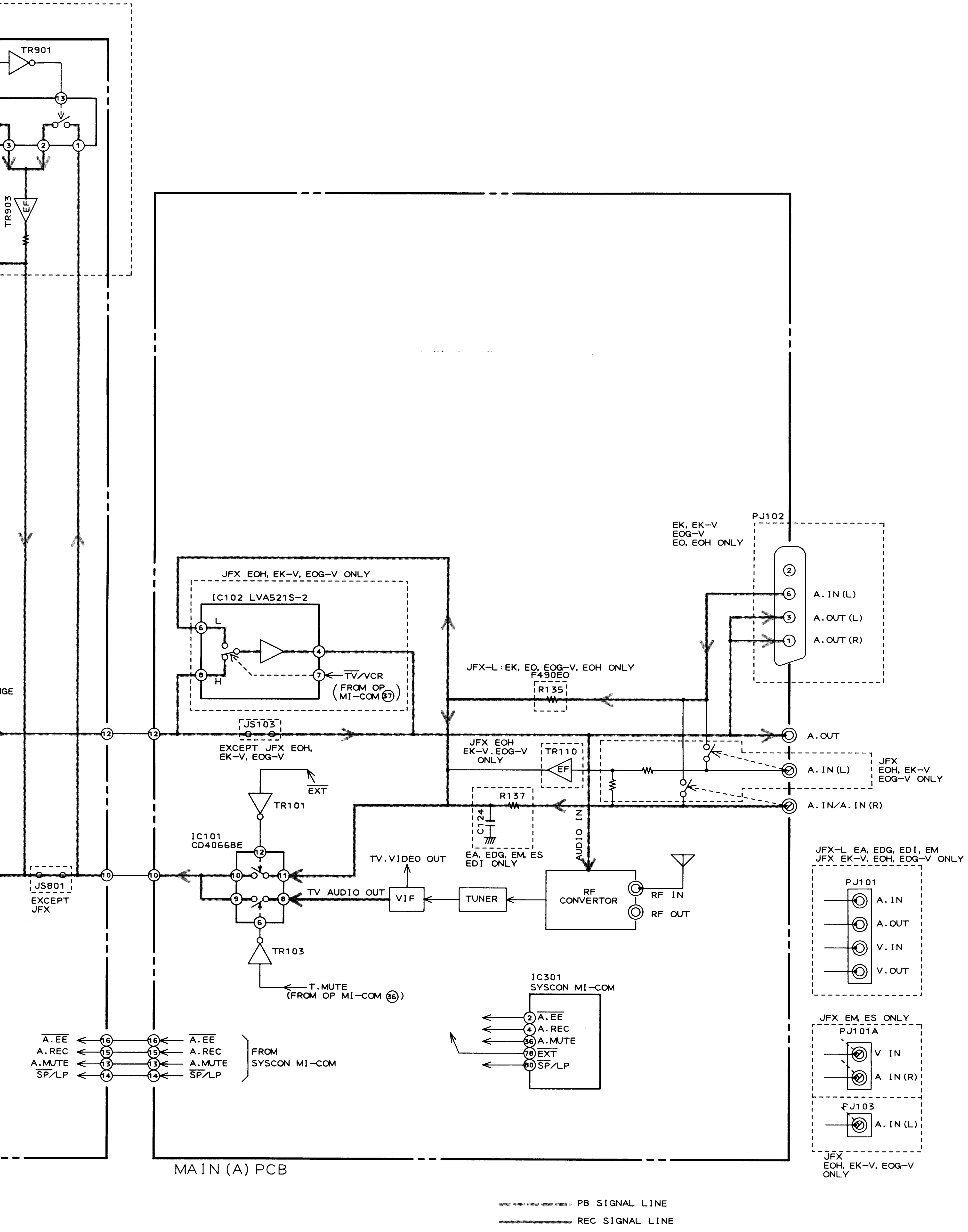
*1 SP:H
LP:L

*2 SP:M
LP:L

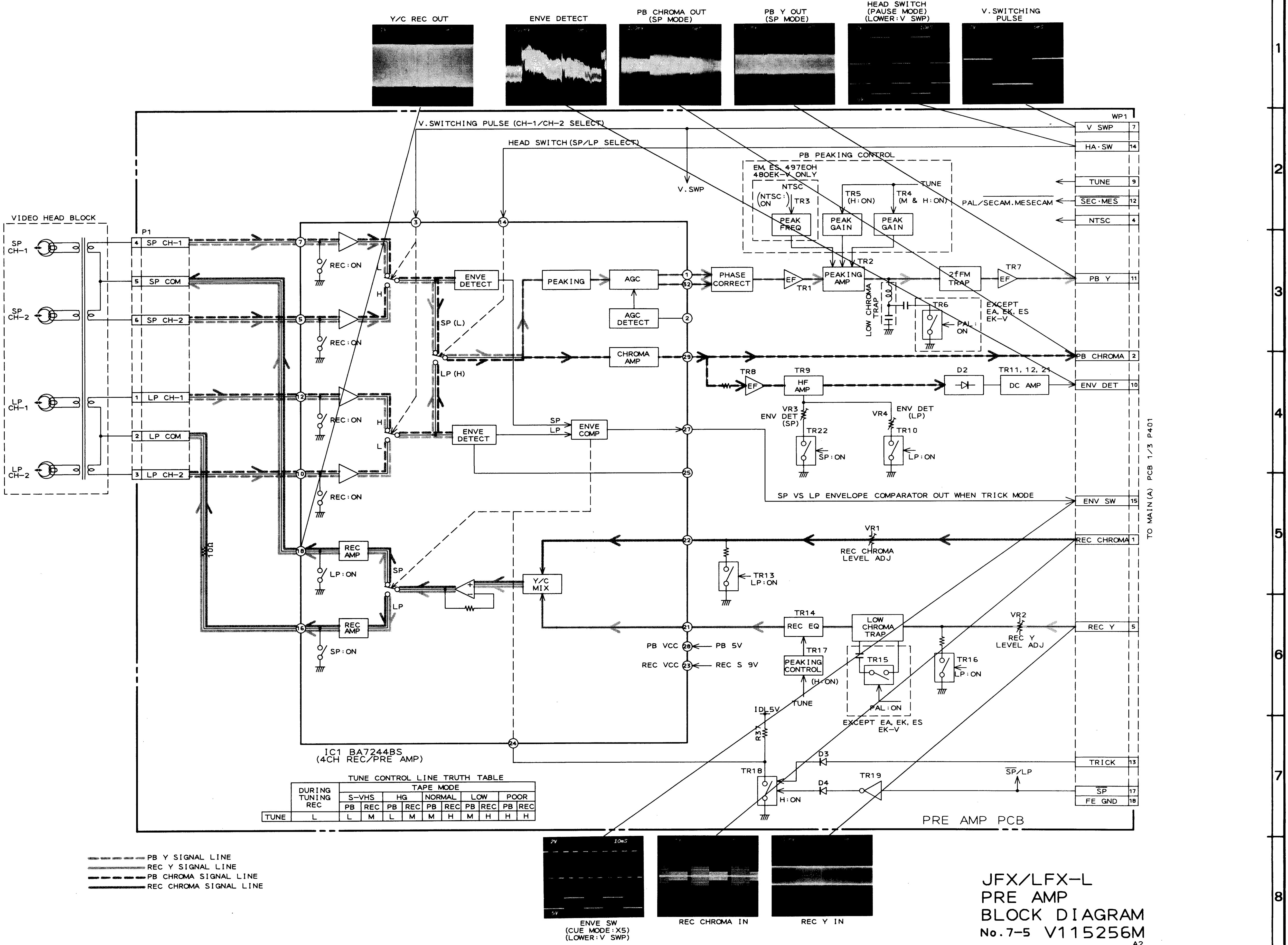
▨	PB Y SIGNAL LINE
▨	REC Y SIGNAL LINE
▨	PB CHROMA SIGNAL LINE
▨	REC CHROMA SIGNAL LINE

JFX/JFX-L
VIDEO
BLOCK DIAGRAM
No.7-3 V115253M
A1


A
B
C
D
E
F
1
2
3
4
5
6
7
8
OPERATION (G) PCB
BIAS OSC
AUDIO
MIC
PJ2
PJ1
P4
WP901
F.AUDIO.SW
F.AUDIO
MIC
EXT
IC902
CD4066BE
TR901
IC901 (1/2)
BA3308
TR903
EF
JFX ONLY
OSC POWER SUPPLY
JFX-L ONLY
FULL TRACK ERASE
WP802
FULL ERASE
GND
VR802
BIAS LEVEL
FL801
TR801
BIAS OSCILLATOR
SIDE TRACK ERASE
WP801
SIDE ERASE
AUDIO REC/PB
AUDIO REC
AUDIO PB
IC801 BA7765AS
PB
REC
N.C
EQ1
EQ2
120K
VREG
IDL9V
VCC
VCC
REC 9V
R803~5, C805
PB.EQ
R806
REC CTRL
A.REC START
ALC REF LEVEL CONT
VR801
PB LEVEL
A·EE
EE
LINE
20dB
2.2K
HIGH RANGE REC EQ
ALC
36dB
SP/LP
EQ1+EQ2
A.MUTE
MUTE
100K
R814~6, C812~4
TWIN T fH TRAP
BF
0dB
JS801
EXCEPT JFX
MAIN (B) PCB
JFX ONLY
FL101, TR101
OSC
REC.S.9V
PRE AMP PCB
A.EE
A.REC
A.MUTE
SP/LP
MA


TR901
TR903
EF
IGE
JFX EOH, EK-V, EOG-V ONLY
IC102 LVA521S-2
L
H
TV/VCR
(FROM OP MI-COM ㊲)
JS103
EXCEPT JFX EOH, EK-V, EOG-V
EXT
TR101
IC101
CD4066BE
JS801
EXCEPT JFX
TV.VIDEO OUT
TV AUDIO OUT
VIF
TUNER
RF CONVERTOR
RF IN
RF OUT
TR103
T.MUTE
(FROM OP MI-COM ㊱)
AUDIO IN
JFX-L : EK, EO, EOG-V, EOH ONLY
F490EO
R135
JFX EOH EK-V, EOG-V ONLY
TR110
EF
R137
C124
EA, EDG, EM, ES EDI ONLY
EK, EK-V
EOG-V
EO, EOH ONLY
PJ102
A. IN (L)
A. OUT (L)
A. OUT (R)
A. OUT
A. IN (L)
A. IN/A. IN (R)
JFX
EOH, EK-V
EOG-V ONLY
JFX-L EA, EDG, EDI, EM
JFX EK-V, EOH, EOG-V ONLY
PJ101
A. IN
A. OUT
V. IN
V. OUT
JFX EM, ES ONLY
PJ101A
V IN
A IN (R)
PJ103
A. IN (L)
JFX
EOH, EK-V, EOG-V
ONLY
IC301
SYSCON MI-COM
A.EE
A.REC
A.MUTE
EXT
SP/LP
A.EE
A.REC
A.MUTE
SP/LP
A.EE
A.REC
A.MUTE
SP/LP
FROM
SYSCON MI-COM
MAIN (A) PCB
PB SIGNAL LINE
REC SIGNAL LINE
F
G
H
I
J
K
1
2
3
4
5
6
7
8

JFX/JFX-L
AUDIO
BLOCK DIAGRAM
No.7-4 V115254M
A2

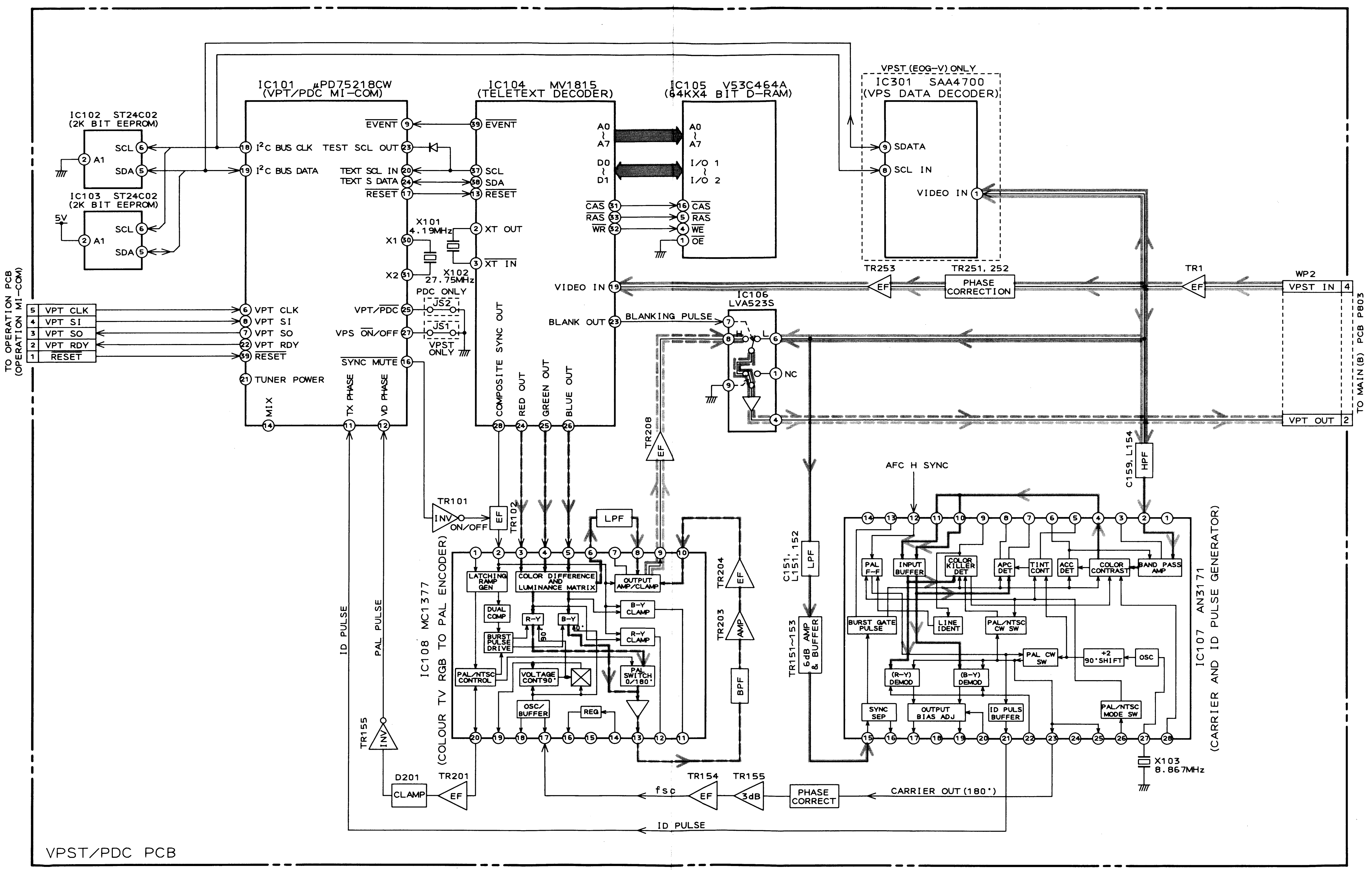

Y/C REC OUT
ENVE DETECT
PB CHROMA OUT (SP MODE)
PB Y OUT (SP MODE)
HEAD SWITCH (PAUSE MODE) (LOWER:V SWP)
V.SWITCHING PULSE
V.SWITCHING PULSE (CH-1/CH-2 SELECT)
HEAD SWITCH(SP/LP SELECT)
V.SWP
PB PEAKING CONTROL
EM, ES, 497EOH 480EK-V ONLY
NTSC
(NTSC: ON)
TR3
PEAK FREQ
TR5 (H:ON)
TR4 (M & H:ON)
TUNE
PEAK GAIN
PEAK GAIN
TR2
PEAKING AMP
VIDEO HEAD BLOCK
SP CH-1
SP CH-2
LP CH-1
LP CH-2
P1
4 SP CH-1
5 SP COM
6 SP CH-2
1 LP CH-1
2 LP COM
3 LP CH-2
REC:ON
REC:ON
REC:ON
REC:ON
H
L
SP (L)
LP (H)
ENVE DETECT
ENVE DETECT
PEAKING
AGC
AGC DETECT
CHROMA AMP
PHASE CORRECT
EF
TR1
LOW CHROMA TRAP
2fFM TRAP
TR7
EF
TR6
PAL: ON
EXCEPT EA, EK, ES EK-V
TR8
EF
TR9
HF AMP
D2
TR11, 12, 21
DC AMP
VR3 ENV DET (SP)
TR22
SP:ON
VR4 ENV DET (LP)
TR10
LP:ON
SP
LP
ENVE COMP
SP VS LP ENVELOPE COMPARATOR OUT WHEN TRICK MODE
VR1
REC CHROMA LEVEL ADJ
TR13 LP:ON
REC AMP
LP:ON
REC AMP
SP:ON
SP
LP
Y/C MIX
10Ω
TR14
REC EQ
LOW CHROMA TRAP
TR15
PAL:ON
EXCEPT EA, EK, ES EK-V
TR16 LP:ON
VR2
REC Y LEVEL ADJ
TR17
PEAKING CONTROL
(H:ON)
TUNE
PB VCC 28 ← PB 5V
REC VCC 23 ← REC S 9V
IDL5V
R37
TR18
H:ON
D3
D4
TR19
SP/LP
IC1 BA7244BS (4CH REC/PRE AMP)
3
14
7
5
12
10
18
16
1
32
2
29
27
25
22
21
28
23
24
WP1
V SWP 7
HA·SW 14
TUNE 9
PAL/SECAM.MESECAM
SEC·MES 12
NTSC 4
PB Y 11
PB CHROMA 2
ENV DET 10
ENV SW 15
REC CHROMA 1
REC Y 5
TRICK 13
SP 17
FE GND 18
TO MAIN (A) PCB 1/3 P401
PRE AMP PCB
ENVE SW (CUE MODE:X5) (LOWER:V SWP)
REC CHROMA IN
REC Y IN
A B C D E F G H I J K
1 2 3 4 5 6 7 8

TUNE CONTROL LINE TRUTH TABLE

	DURING TUNING REC	TAPE MODE									
		S-VHS		HG		NORMAL		LOW		POOR	
		PB	REC	PB	REC	PB	REC	PB	REC	PB	REC
TUNE	L	L	M	L	M	M	H	M	H	H	H

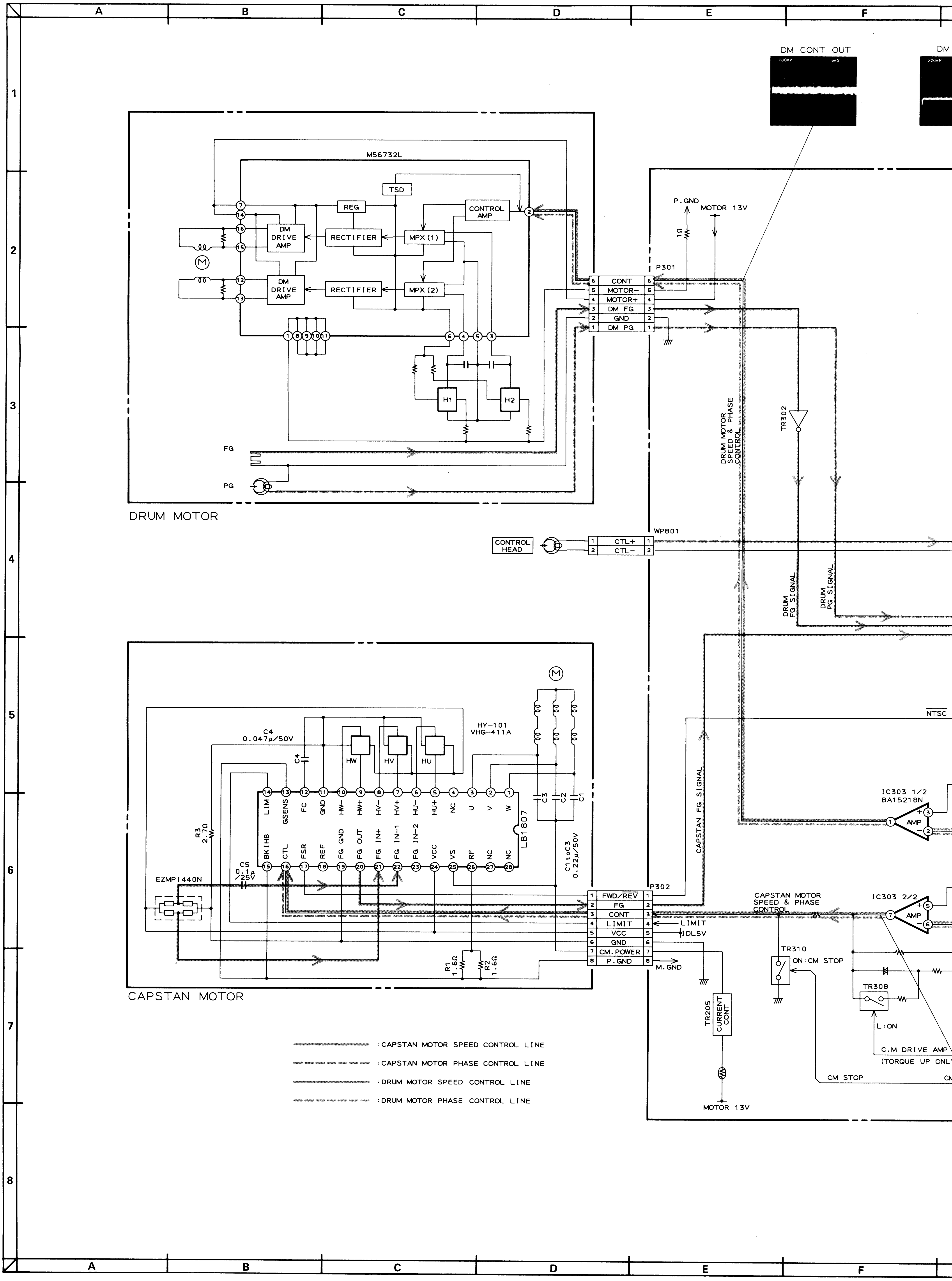
- PB Y SIGNAL LINE
- REC Y SIGNAL LINE
- PB CHROMA SIGNAL LINE
- REC CHROMA SIGNAL LINE

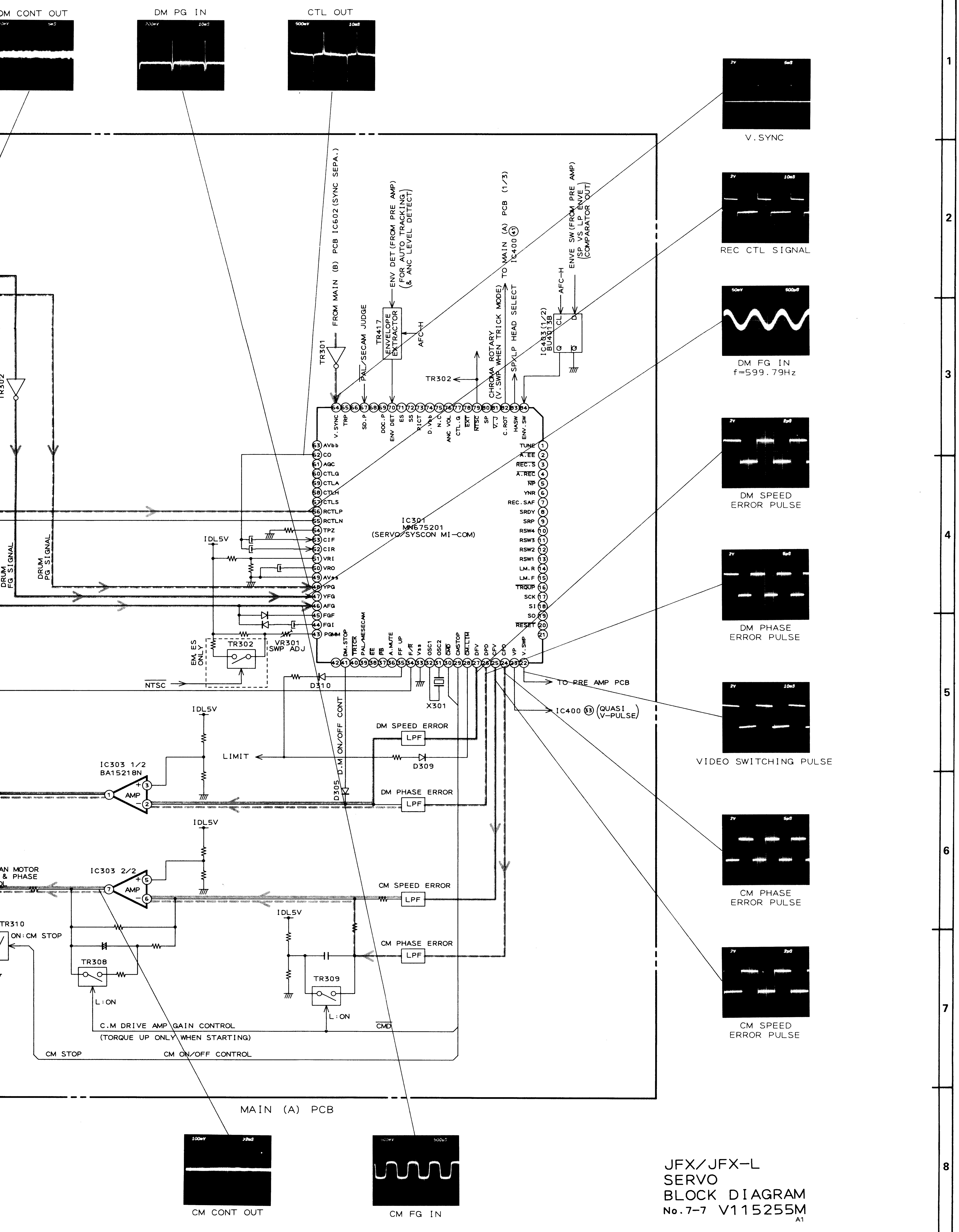
JFX/LFX-L
PRE AMP
BLOCK DIAGRAM
No.7-5 V115256M
A2


IC101 µPD75218CW
(VPT/PDC MI-COM)
IC102 ST24C02
(2K BIT EEPROM)
IC103 ST24C02
(2K BIT EEPROM)
SCL
SDA
A1
5V
I²C BUS CLK
I²C BUS DATA
TEST SCL OUT
TEXT SCL IN
TEXT S DATA
RESET
EVENT
X101
4.19MHz
X102
27.75MHz
X1
X2
PDC ONLY
JS2
JS1
VPST ONLY
VPT/PDC
VPS ON/OFF
SYNC MUTE
VPT CLK
VPT SI
VPT SO
VPT RDY
TUNER POWER
MIX
TX PHASE
VD PHASE
TO OPERATION PCB
(OPERATION MI-COM)
IC104 MV1815
(TELETEXT DECODER)
XT OUT
XT IN
VIDEO IN
BLANK OUT
COMPOSITE SYNC OUT
RED OUT
GREEN OUT
BLUE OUT
IC105 V53C464A
(64KX4 BIT D-RAM)
A0 ~ A7
D0 ~ D1
I/O 1 ~ I/O 2
CAS
RAS
WR
WE
OE
VPST (EOG-V) ONLY
IC301 SAA4700
(VPS DATA DECODER)
SDATA
SCL IN
VIDEO IN
TR253
EF
TR251, 252
PHASE CORRECTION
TR1
WP2
VPST IN
VPT OUT
TO MAIN (B) PCB P803
IC106
LVA523S
BLANKING PULSE
H
L
NC
TR208
HPF
C159, L154
TR101
INV
ON/OFF
TR102
IC108 MC1377
(COLOUR TV RGB TO PAL ENCODER)
LATCHING RAMP GEN
COLOR DIFFERENCE AND LUMINANCE MATRIX
OUTPUT AMP/CLAMP
DUAL COMP
B-Y CLAMP
R-Y CLAMP
R-Y
B-Y
BURST PULSE DRIVE
PAL/NTSC CONTROL
VOLTAGE CONT90°
PAL SWITCH 0/180°
OSC/BUFFER
REG
LPF
TR204
TR203
AMP
BPF
C151, L151, 152
TR151~153
6dB AMP & BUFFER
AFC H SYNC
IC107 AN3171
(CARRIER AND ID PULSE GENERATOR)
PAL F-F
INPUT BUFFER
COLOR KILLER DET
APC DET
TINT CONT
ACC DET
COLOR CONTRAST
BAND PASS AMP
BURST GATE PULSE
LINE IDENT
PAL/NTSC CW SW
PAL CW SW
÷2 90°SHIFT
OSC
(R-Y) DEMOD
(B-Y) DEMOD
SYNC SEP
OUTPUT BIAS ADJ
ID PULS BUFFER
PAL/NTSC MODE SW
X103
8.867MHz
ID PULSE
PAL PULSE
TR155
D201
CLAMP
TR201
fsc
TR154
3dB
PHASE CORRECT
CARRIER OUT (180°)
VPST/PDC PCB

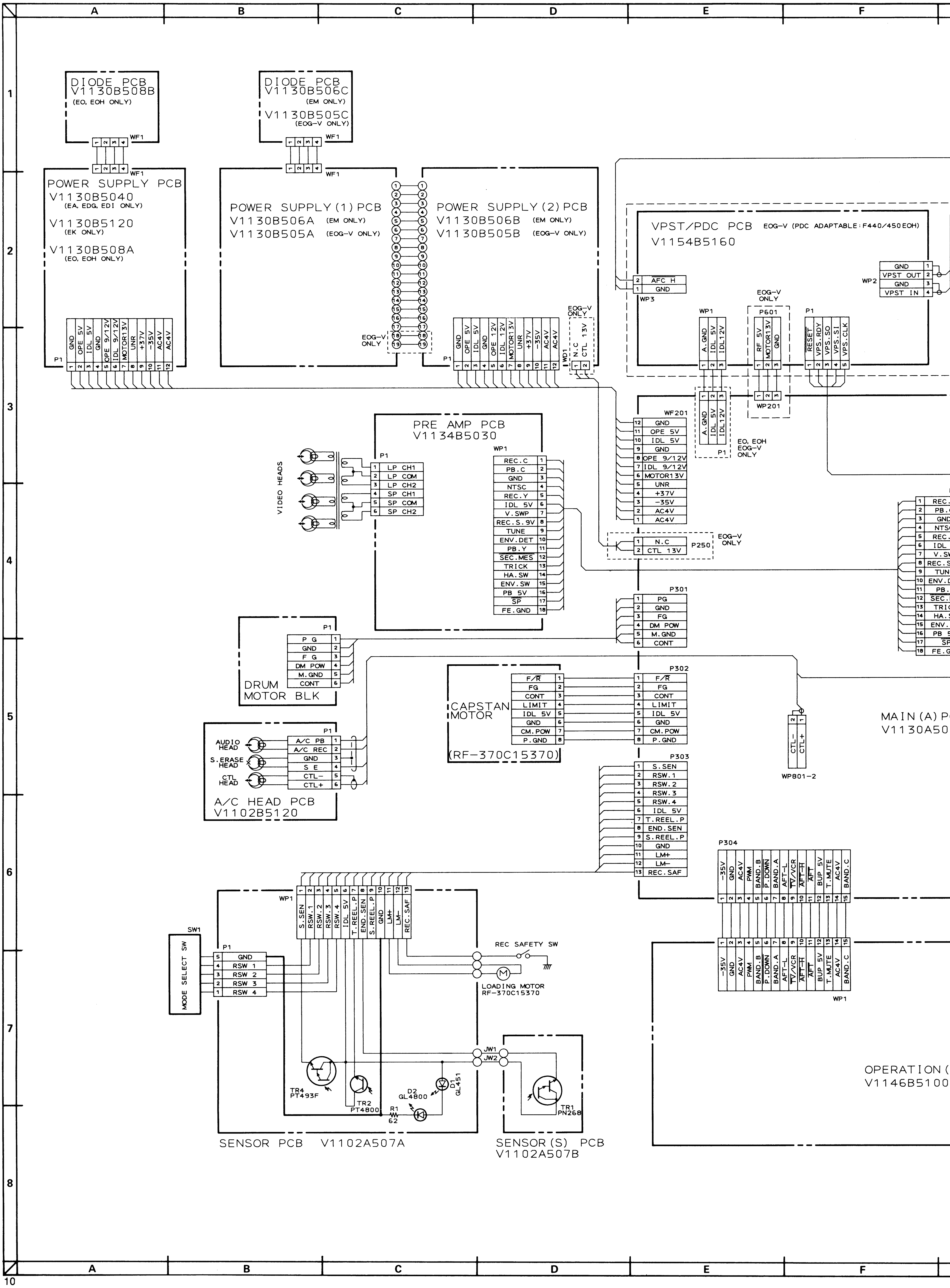
Y IN (TUNER) SIGNAL
Y VPT SIGNAL
CHROMA IN (TUNER) SIGNAL
CHROMA VPT SIGNAL

VS-480EK-V/EOG-V
VPST/PDC
BLOCK DIAGRAM
No.7-6 V115257M
A2

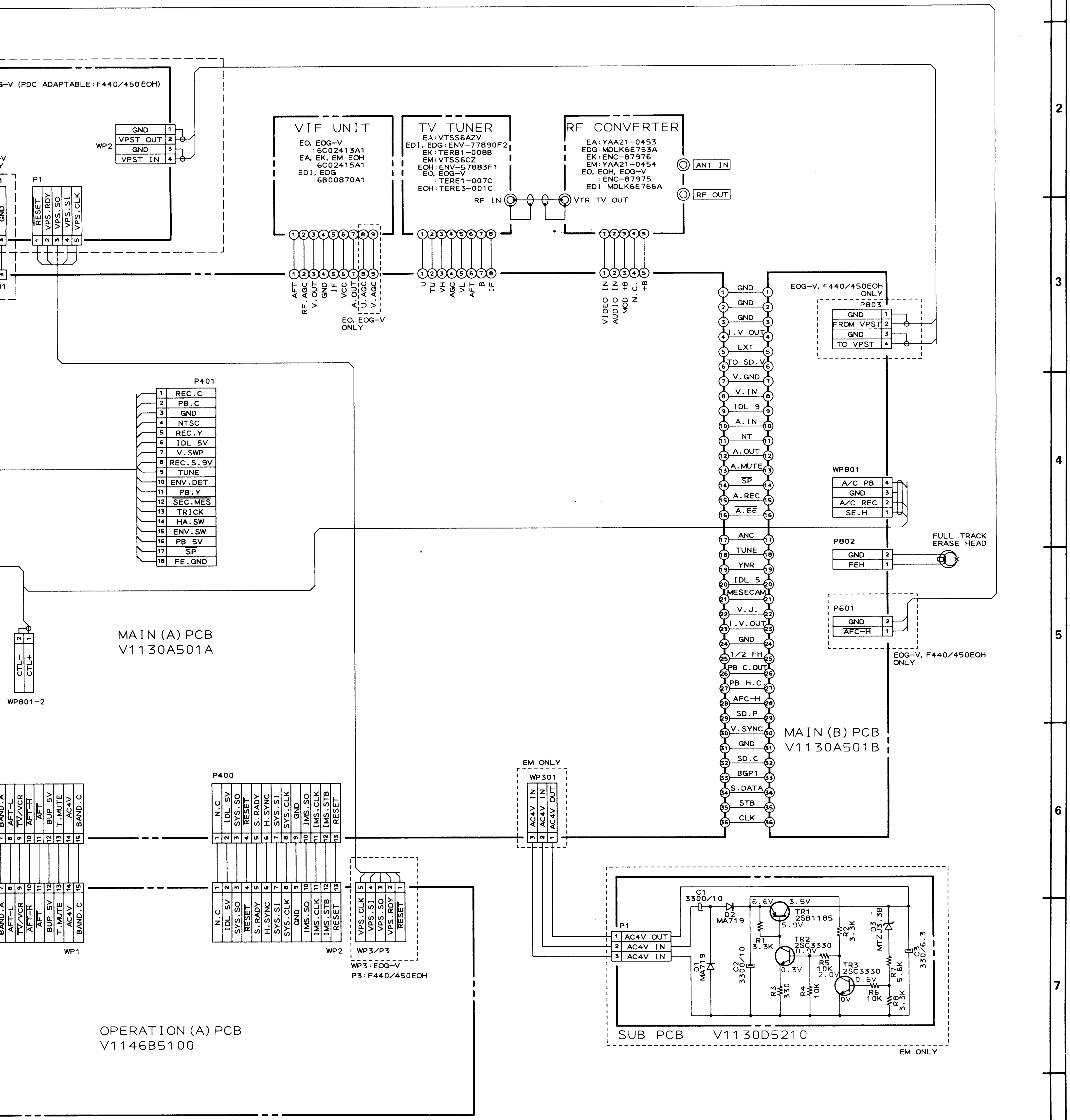

A
B
C
D
E
F
1
2
3
4
5
6
7
8
DM CONT OUT
DM
M56732L
TSD
REG
CONTROL AMP
DM DRIVE AMP
RECTIFIER
MPX (1)
MPX (2)
H1
H2
FG
PG
DRUM MOTOR
P.GND
MOTOR 13V
1Ω
P301
CONT
MOTOR−
MOTOR+
DM FG
GND
DM PG
DRUM MOTOR SPEED & PHASE CONTROL
TR302
CONTROL HEAD
WP801
CTL+
CTL−
DRUM FG SIGNAL
DRUM PG SIGNAL
NTSC
HY-101
VHG-411A
C4 0.047μ/50V
HW
HV
HU
LIM
GSENS
FC
GND
HW−
HW+
HV−
HV+
HU−
HU+
NC
U
V
W
BKIHB
CTL
FSR
REF
FG GND
FG OUT
FG IN+
FG IN−1
FG IN−2
VCC
VS
RF
NC
LB1807
C3
C2
C1
C1toC3 0.22μ/50V
R3 2.7Ω
C5 0.1μ /25V
EZMPI440N
P302
FWD/REV
FG
CONT
LIMIT
VCC
GND
CM.POWER
P.GND
LIMIT
IDL5V
M.GND
R1 1.6Ω
R2 1.6Ω
CAPSTAN MOTOR
CAPSTAN FG SIGNAL
IC303 1/2
BA15218N
AMP
CAPSTAN MOTOR SPEED & PHASE CONTROL
IC303 2/2
TR310
ON:CM STOP
TR308
L:ON
C.M DRIVE AMP
(TORQUE UP ONL
CM STOP
CM
TR205
CURRENT CONT
MOTOR 13V
:CAPSTAN MOTOR SPEED CONTROL LINE
:CAPSTAN MOTOR PHASE CONTROL LINE
:DRUM MOTOR SPEED CONTROL LINE
:DRUM MOTOR PHASE CONTROL LINE


DM CONT OUT
DM PG IN
CTL OUT
V.SYNC
REC CTL SIGNAL
DM FG IN
f=599.79Hz
DM SPEED
ERROR PULSE
DM PHASE
ERROR PULSE
VIDEO SWITCHING PULSE
CM PHASE
ERROR PULSE
CM SPEED
ERROR PULSE
CM CONT OUT
CM FG IN
MAIN (A) PCB
FROM MAIN (B) PCB IC602(SYNC SEPA.)
TR301
PAL/SECAM JUDGE
TR417
ENVELOPE
EXTRACTOR
ENV DET (FROM PRE AMP)
(FOR AUTO TRACKING
& ANC LEVEL DETECT)
AFC-H
TR302
CHROMA ROTARY
(V.SWP WHEN TRICK MODE)
SP/LP HEAD SELECT
TO MAIN (A) PCB (1/3)
IC400 ㊶
IC403(1/2)
BU4013B
CL
D
Q
AFC-H
ENVE SW (FROM PRE AMP)
(SP VS LP ENVE
(COMPARATOR OUT)
IC301
MN675201
(SERVO/SYSCON MI-COM)
V.SYNC
TRP
SD.P
DOC.P
ENV DET
ES
SS
PICT
D.Vbb
N.C
ANC VOL
CTL.G
EXT
NTSC
SP
V.SW
C.ROT
HASW
ENV.SW
AVbb
CO
AGC
CTLG
CTLA
CTLH
CTLS
RCTLP
RCTLN
TPZ
CIF
CIR
VRI
VRO
AVss
YPG
YFG
AFG
FGF
FGI
PGMM
TUNE
A.EE
REC.S
A.REC
NP
YNR
REC.SAF
SRDY
SRP
RSW4
RSW3
RSW2
RSW1
LM.R
LM.F
TRQUP
SCK
SI
SO
RESET
DM.STOP
TRICR
PAL/MESECAM
EE
PB
A.MUTE
FF UP
F/R
Vss
OSC1
OSC2
CMD
CMSTOP
CM.LIM
DFV
DPD
CFV
CPD
VP
V.SWP
IDL5V
DRUM
FG SIGNAL
DRUM
PG SIGNAL
TR302
EM, ES
ONLY
TR302
VR301
SWP ADJ
NTSC
D310
X301
TO PRE AMP PCB
IC400 ㉝ (QUASI
V-PULSE)
D.M ON/OFF CONT
LIMIT
DM SPEED ERROR
LPF
D309
IC303 1/2
BA15218N
AMP
D305
DM PHASE ERROR
LPF
IC303 2/2
AN MOTOR
& PHASE
CM SPEED ERROR
LPF
TR310
ON:CM STOP
TR308
L:ON
CM PHASE ERROR
LPF
TR309
L:ON
CMD
C.M DRIVE AMP GAIN CONTROL
(TORQUE UP ONLY WHEN STARTING)
CM STOP
CM ON/OFF CONTROL
F
G
H
I
J
K
1
2
3
4
5
6
7
8

JFX/JFX-L
SERVO
BLOCK DIAGRAM
No.7-7 V115255M
A1



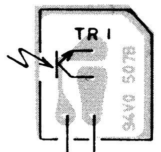
A
B
C
D
E
F
1
2
3
4
5
6
7
8
DIODE PCB
V1130B508B
(EO, EOH ONLY)
WF1
DIODE PCB
V1130B506C
(EM ONLY)
V1130B505C
(EOG-V ONLY)
WF1
POWER SUPPLY PCB
V1130B5040
(EA, EDG, EDI ONLY)
V1130B5120
(EK ONLY)
V1130B508A
(EO, EOH ONLY)
P1
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
POWER SUPPLY (1) PCB
V1130B506A (EM ONLY)
V1130B505A (EOG-V ONLY)
POWER SUPPLY (2) PCB
V1130B506B (EM ONLY)
V1130B505B (EOG-V ONLY)
EOG-V ONLY
P1
GND
OPE 5V
IDL 5V
GND
OPE 12V
IDL 12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
EOG-V ONLY
WD1
N.C
CTL 13V
VPST/PDC PCB EOG-V (PDC ADAPTABLE: F440/450EOH)
V1154B5160
AFC H
GND
WP3
WP2
GND
VPST OUT
GND
VPST IN
EOG-V ONLY
WP1
A.GND
IDL 5V
IDL12V
P601
RF 5V
MOTOR13V
GND
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP201
P1
EO, EOH
EOG-V
ONLY
WF201
GND
OPE 5V
IDL 5V
GND
OPE 9/12V
IDL 9/12V
MOTOR13V
UNR
+37V
-35V
AC4V
AC4V
PRE AMP PCB
V1134B5030
VIDEO HEADS
P1
LP CH1
LP COM
LP CH2
SP CH1
SP COM
SP CH2
WP1
REC.C
PB.C
GND
NTSC
REC.Y
IDL 5V
V.SWP
REC.S.9V
TUNE
ENV.DET
PB.Y
SEC.MES
TRICK
HA.SW
ENV.SW
PB 5V
SP
FE.GND
P250
N.C
CTL 13V
EOG-V ONLY
P301
PG
GND
FG
DM POW
M.GND
CONT
DRUM MOTOR BLK
P1
P G
GND
F G
DM POW
M.GND
CONT
CAPSTAN MOTOR
(RF-370C15370)
F/R
FG
CONT
LIMIT
IDL 5V
GND
CM.POW
P.GND
P302
F/R
FG
CONT
LIMIT
IDL 5V
GND
CM.POW
P.GND
A/C HEAD PCB
V1102B5120
AUDIO HEAD
S.ERASE HEAD
CTL HEAD
P1
A/C PB
A/C REC
GND
S E
CTL-
CTL+
CTL-
CTL+
WP801-2
P303
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
IDL 5V
T.REEL.P
END.SEN
S.REEL.P
GND
LM+
LM-
REC.SAF
MAIN (A) P
V1130A50
REC.
PB.
GND
NTS
REC.
IDL
V.SW
REC.S
TUN
ENV.D
PB.
SEC.
TRI
HA.
ENV.
PB 5
SP
FE.G
P304
-35V
GND
AC4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
WP1
OPERATION (
V1146B5100
SW1
MODE SELECT SW
P1
GND
RSW 1
RSW 2
RSW 3
RSW 4
WP1
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
IDL 5V
T.REEL.P
END.SEN
S.REEL.P
GND
LM+
LM-
REC.SAF
REC SAFETY SW
LOADING MOTOR
RF-370C15370
JW1
JW2
TR4
PT493F
TR2
PT4800
R1
62
D2
GL4800
D1
GL451
TR1
PN268
SENSOR PCB V1102A507A
SENSOR (S) PCB
V1102A507B


-V (PDC ADAPTABLE:F440/450EOH)
WP2
GND 1
VPST OUT 2
GND 3
VPST IN 4
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
VIF UNIT
EO, EOG-V :6C02413A1
EA, EK, EM EOH :6C02415A1
EDI, EDG :6B00870A1
TV TUNER
EA:VTSS6AZV
EDI, EDG:ENV-77890F2
EK:TERB1-008B
EM:VTSS6CZ
EOH:ENV-57883F1
EO, EOG-V :TERE1-007C
EOH:TERE3-001C
RF IN
RF CONVERTER
EA:YAA21-0453
EDG:MDLK6E753A
EK:ENC-87976
EM:YAA21-0454
EO, EOH, EOG-V :ENC-87975
EDI:MDLK6E766A
VTR TV OUT
ANT IN
RF OUT
AFT
RF.AGC
V.OUT
GND
IF
VCC
A.OUT
U.AGC
V.AGC
EO, EOG-V ONLY
U
TU
VH
AGC
VL
AFT
B
IF
VIDEO IN
AUDIO IN
MOD +B
N.C.
+B
GND
GND
GND
I.V OUT
EXT
TO SD.V
V.GND
V.IN
IDL 9
A.IN
NT
A.OUT
A.MUTE
SP
A.REC
A.EE
ANC
TUNE
YNR
IDL 5
MESECAM
V.J.
I.V.OUT
GND
1/2 FH
PB C.OUT
PB H.C
AFC-H
SD.P
V.SYNC
GND
SD.C
BGP1
S.DATA
STB
CLK
EOG-V, F440/450EOH ONLY
P803
GND 1
FROM VPST 2
GND 3
TO VPST 4
WP801
A/C PB 4
GND 3
A/C REC 2
SE.H 1
P802
GND 2
FEH 1
FULL TRACK ERASE HEAD
P601
GND 2
AFC-H 1
EOG-V, F440/450EOH ONLY
P401
1 REC.C
2 PB.C
3 GND
4 NTSC
5 REC.Y
6 IDL 5V
7 V.SWP
8 REC.S.9V
9 TUNE
10 ENV.DET
11 PB.Y
12 SEC.MES
13 TRICK
14 HA.SW
15 ENV.SW
16 PB 5V
17 SP
18 FE.GND
MAIN (A) PCB
V1130A501A
CTL-
CTL+
WP801-2
MAIN (B) PCB
V1130A501B
EM ONLY
WP301
AC4V IN
AC4V IN
AC4V OUT
P400
N.C
IDL 5V
SYS.SO
RESET
S.RADY
H.SYNC
SYS.SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
WP1
WP2
VPS.CLK
VPS.SI
VPS.SO
VPS.RDY
RESET
WP3/P3
WP3:EOG-V
P3:F440/450EOH
OPERATION (A) PCB
V1146B5100
P1
1 AC4V OUT
2 AC4V IN
3 AC4V IN
C1 3300/10
D2 MA719
6.6V
3.5V
TR1 2SB1185
5.9V
R1 3.3K
TR2 2SC3330
0.9V
R2 3.3K
D3 MTZJ3.3B
C3 330/6.3
D1 MA719
C2 3300/10
0.3V
R5 10K
2.0V
TR3 2SC3330
0.6V
R7 5.6K
R3 330
R4 10K
0V
R6 10K
R8 3.3K
SUB PCB V1130D5210
EM ONLY

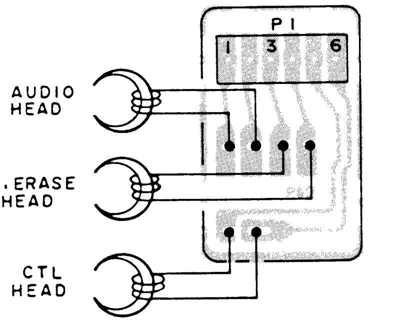
INDICATED VOLTAGES IN THE SUB PCB WERE MEASURED IN PB MODE.
(CONNECTED DC VOLTMETER'S GROUND TO THE P1 ③ PIN WHEN WEASURED)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF (M)

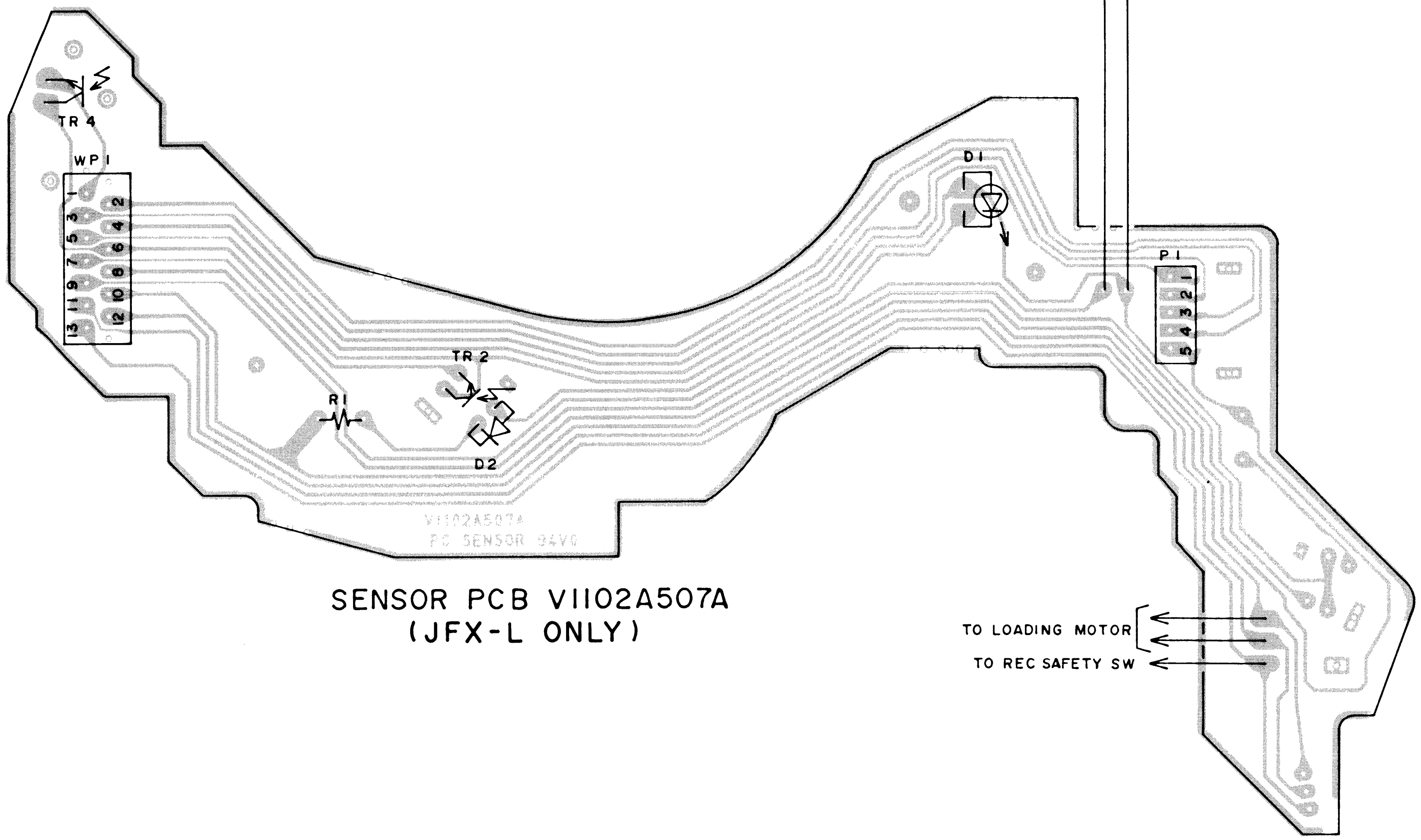
VS-F440EA/EDG/EDI/EK/
EM/EO/EOH/EOG-V
VS-F441EA, F450EOH, F455EOH
CONNECTION DIAGRAM
No.21-1 V115201M


TR1
94V0 507B

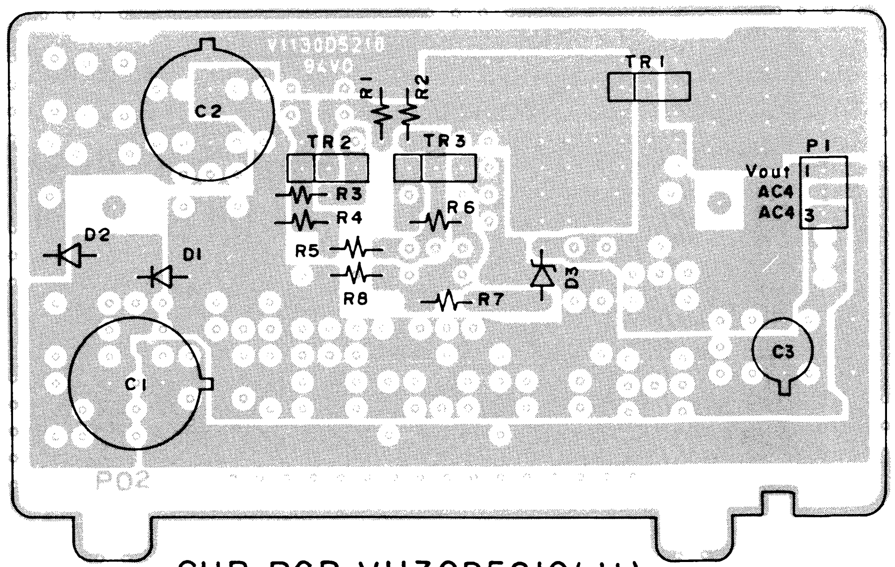
SENSOR(S) PCB
V1102A507B


P1
1 3 6
AUDIO HEAD
S.ERASE HEAD
CTL HEAD

A/C HEAD PCB
V1102B5120(J1)

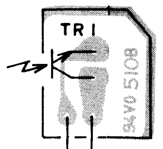

TR4
WP1
1 2 3 4 5 6 7 8 9 10 11 12 13
D1
P1
1 2 3 4 5
TR2
R1
D2
V1102A507A
PC SENSOR 94V0
TO LOADING MOTOR
TO REC SAFETY SW

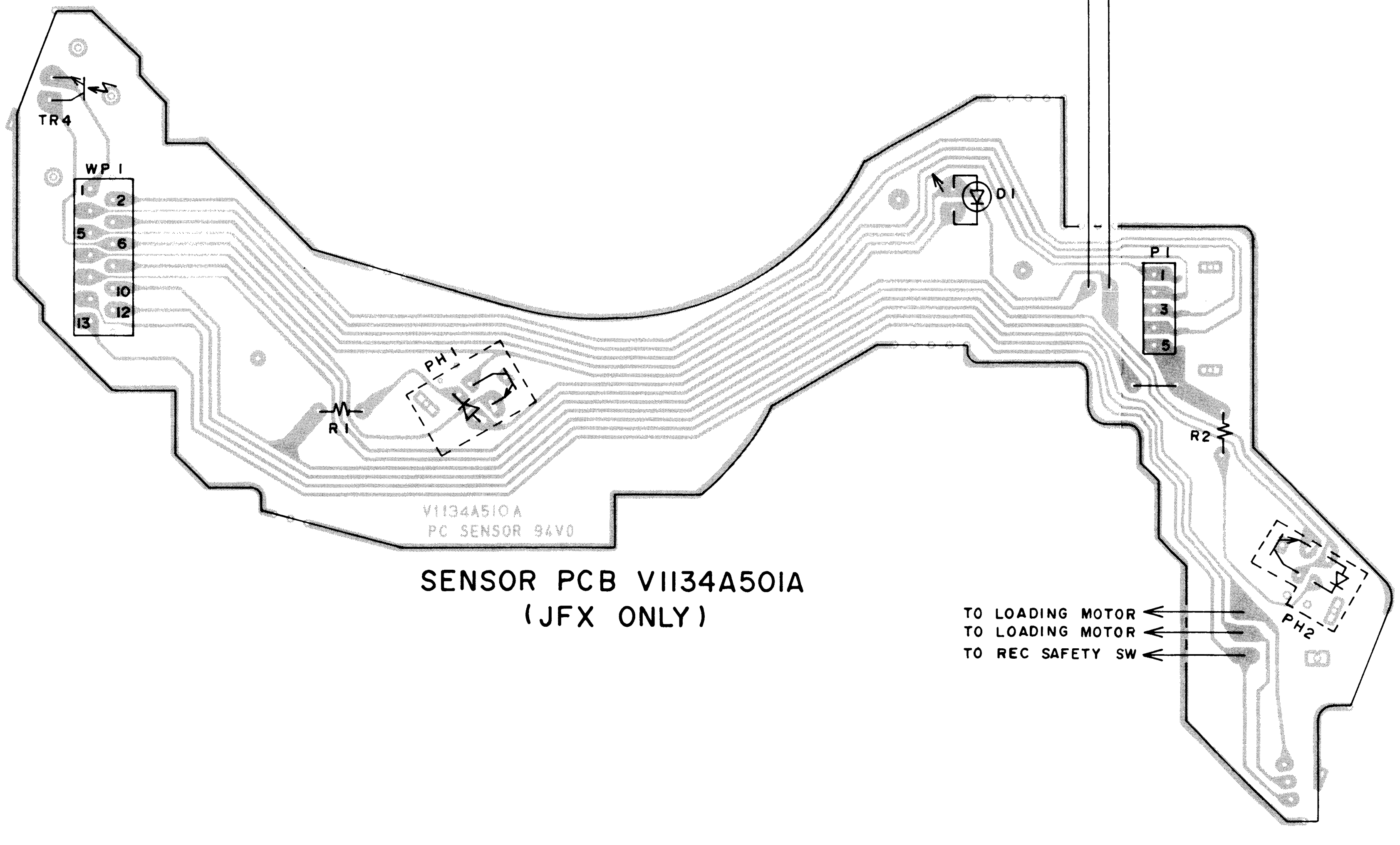
SENSOR PCB V1102A507A
(JFX-L ONLY)


V1130D5210
94V0
C2
R1
R2
TR1
TR2
TR3
P1
Vout 1
AC4
AC4 3
R3
R4
R5
R6
R7
R8
D1
D2
D3
C1
C3
P02

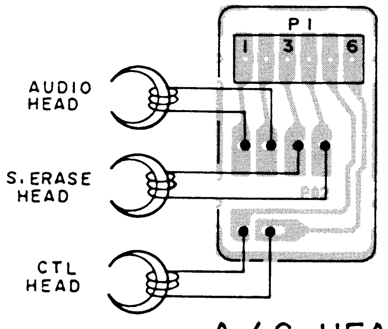
SUB PCB V1130D5210(J1)
(EM ONLY)

SENSOR(S) PCB
V1134A501A

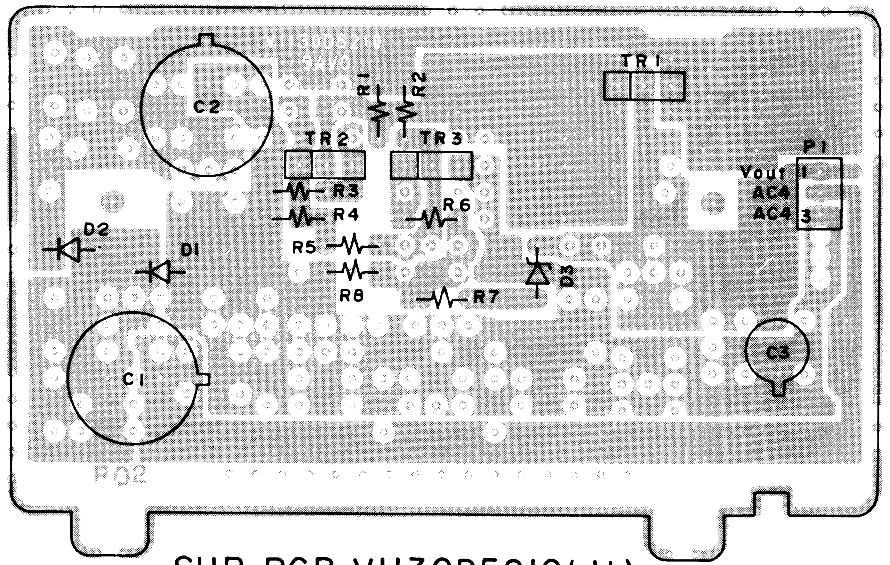

TR1
94V0 5108


TR4
WP1
1
2
5
6
10
12
13
R1
PH1
D1
P1
1
3
5
R2
PH2
V1134A510A
PC SENSOR 94V0
TO LOADING MOTOR
TO LOADING MOTOR
TO REC SAFETY SW

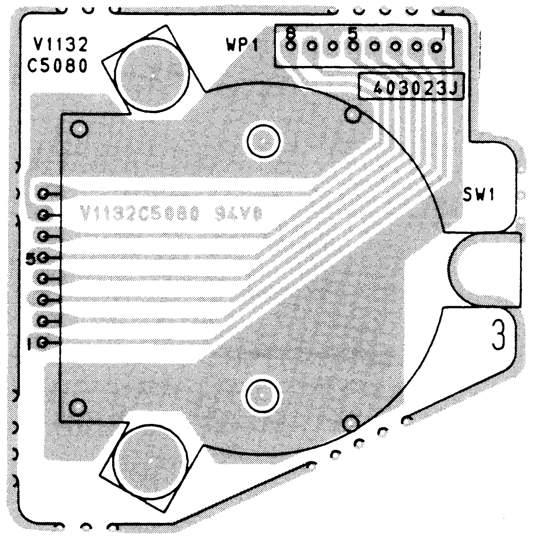
SENSOR PCB V1134A501A
(JFX ONLY)


P1
1
3
6
AUDIO HEAD
S.ERASE HEAD
CTL HEAD

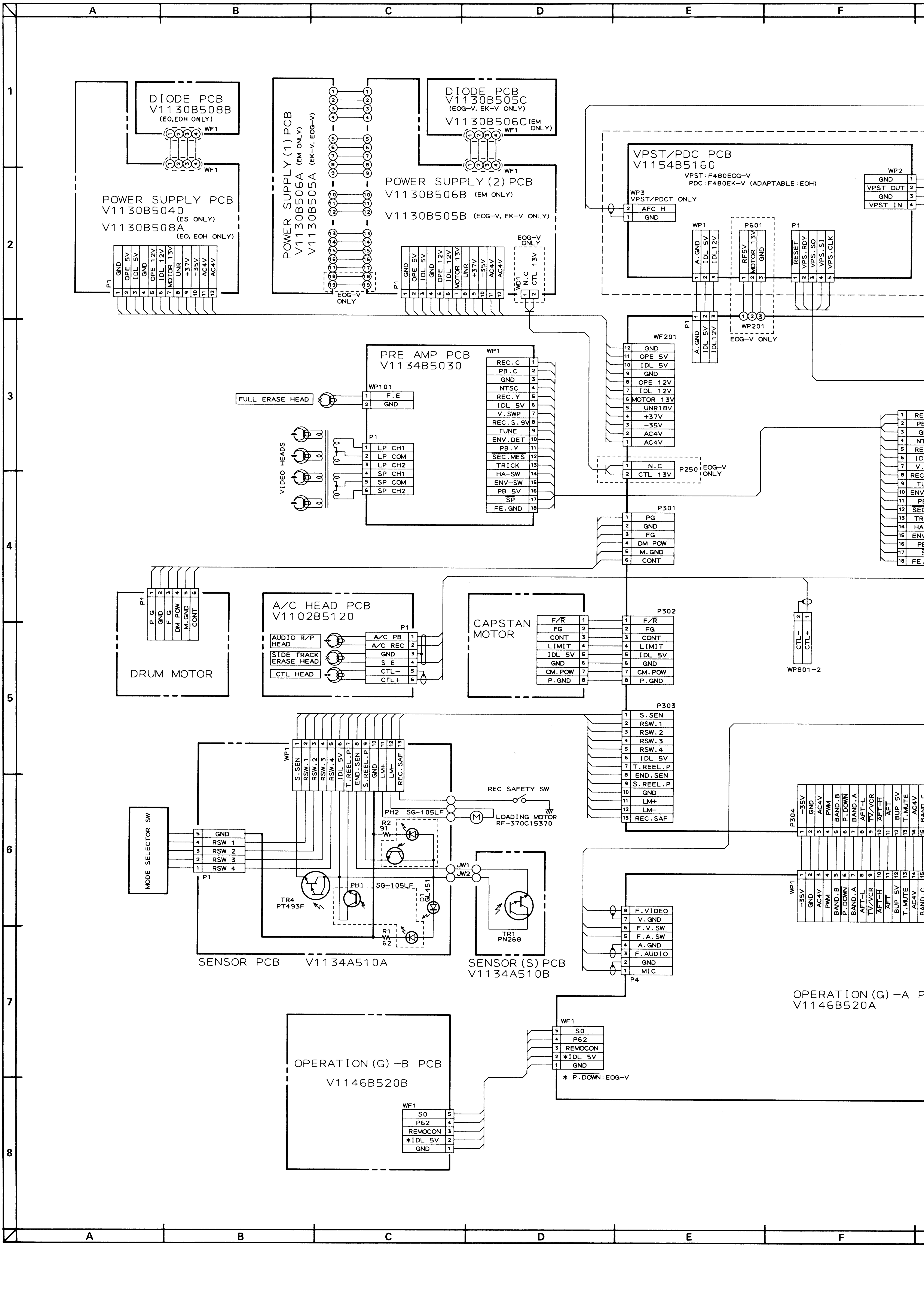
A/C HEAD PCB
V1102B5120(J1)

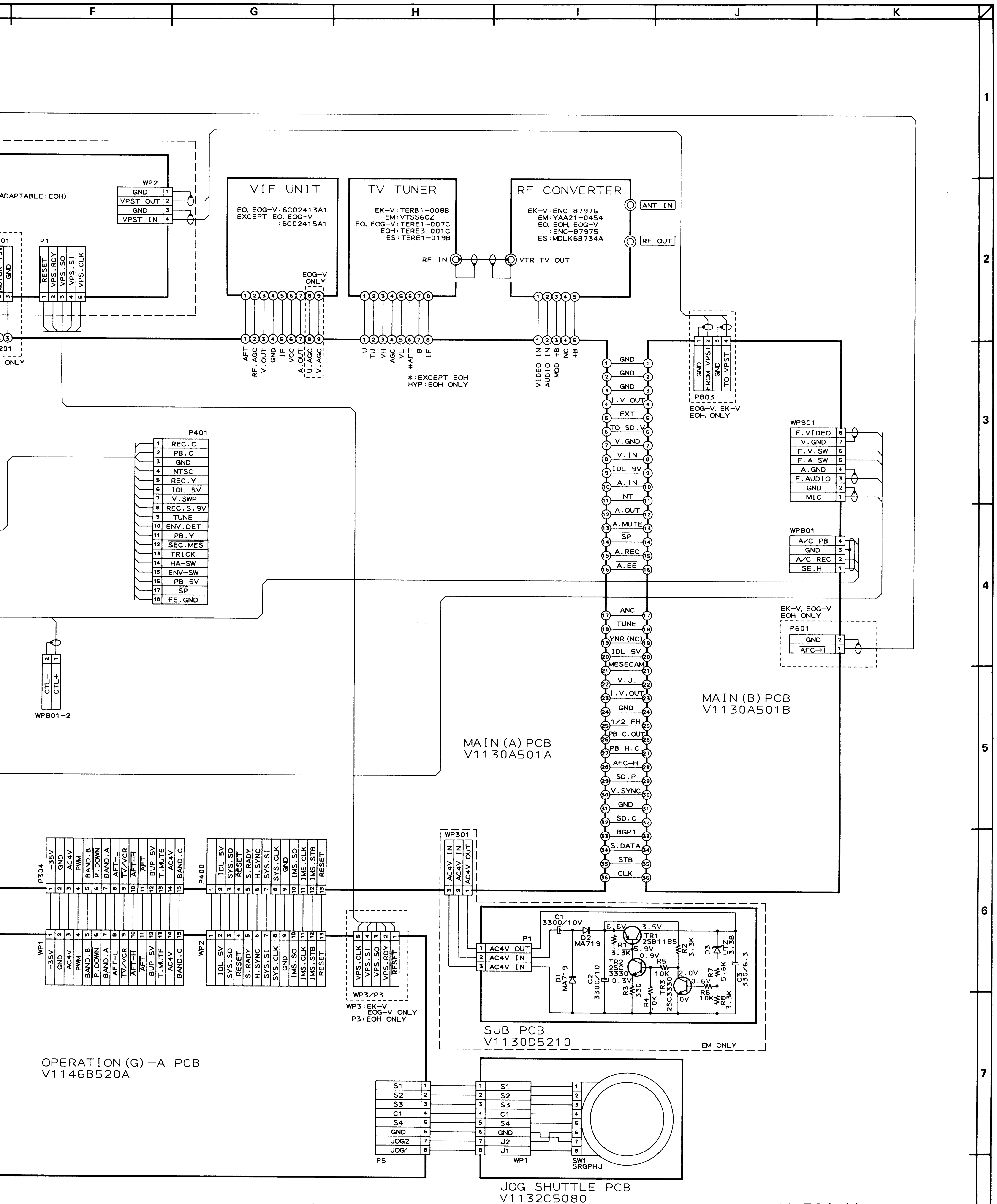

V1130D5210
94V0
C2
R1
R2
TR1
TR2
TR3
R3
R4
R6
R5
R8
R7
D2
D1
D3
P1
Vout 1
AC4
AC4 3
C1
C3
P02

SUB PCB V1130D5210(J1)
(EM ONLY)


V1132
C5080
WP1
8
5
1
403023J
SW1
V1132C5080 94V0
5
1
3

JOG SHUTTLE PCB V1132C5080


A
B
C
D
E
F
1
2
3
4
5
6
7
8
DIODE PCB
V1130B508B
(EO,EOH ONLY)
WF1
POWER SUPPLY PCB
V1130B5040
(ES ONLY)
V1130B508A
(EO, EOH ONLY)
P1
GND
OPE 5V
IDL 5V
GND
OPE 12V
IDL 12V
MOTOR 13V
UNR
+37V
−35V
AC4V
AC4V
POWER SUPPLY (1) PCB
V1130B506A (EM ONLY)
V1130B505A (EK-V, EOG-V)
EOG-V ONLY
DIODE PCB
V1130B505C
(EOG-V, EK-V ONLY)
V1130B506C (EM ONLY)
POWER SUPPLY (2) PCB
V1130B506B (EM ONLY)
V1130B505B (EOG-V, EK-V ONLY)
EOG-V ONLY
WD1
N.C
CTL 13V
VPST/PDC PCB
V1154B5160
VPST : F480EOG-V
PDC : F480EK-V (ADAPTABLE : EOH)
WP3
VPST/PDCT ONLY
AFC H
GND
WP2
GND
VPST OUT
GND
VPST IN
WP1
A.GND
IDL 5V
IDL12V
P601
RF5V
MOTOR 13V
GND
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
WP201
EOG-V ONLY
WF201
GND
OPE 5V
IDL 5V
GND
OPE 12V
IDL 12V
MOTOR 13V
UNR18V
+37V
−35V
AC4V
AC4V
PRE AMP PCB
V1134B5030
WP101
F.E
GND
FULL ERASE HEAD
VIDEO HEADS
LP CH1
LP COM
LP CH2
SP CH1
SP COM
SP CH2
REC.C
PB.C
GND
NTSC
REC.Y
IDL 5V
V.SWP
REC.S.9V
TUNE
ENV.DET
PB.Y
SEC.MES
TRICK
HA-SW
ENV-SW
PB 5V
SP
FE.GND
P250
N.C
CTL 13V
EOG-V ONLY
P301
PG
GND
FG
DM POW
M.GND
CONT
DRUM MOTOR
A/C HEAD PCB
V1102B5120
AUDIO R/P HEAD
SIDE TRACK ERASE HEAD
CTL HEAD
A/C PB
A/C REC
S E
CTL−
CTL+
CAPSTAN MOTOR
F/R
FG
CONT
LIMIT
IDL 5V
CM.POW
P.GND
P302
WP801-2
P303
S.SEN
RSW.1
RSW.2
RSW.3
RSW.4
T.REEL.P
END.SEN
S.REEL.P
LM+
LM−
REC.SAF
REC SAFETY SW
PH2 SG-105LF
LOADING MOTOR
RF-370C15370
MODE SELECTOR SW
RSW 1
RSW 2
RSW 3
RSW 4
R2
91
TR4
PT493F
PH1 SG-105LF
D1
GL451
R1
62
JW1
JW2
TR1
PN268
SENSOR PCB V1134A510A
SENSOR (S) PCB
V1134A510B
P304
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
P4
F.VIDEO
V.GND
F.V.SW
F.A.SW
A.GND
F.AUDIO
MIC
OPERATION (G) −A P
V1146B520A
OPERATION (G) −B PCB
V1146B520B
WF1
S0
P62
REMOCON
*IDL 5V
* P.DOWN : EOG-V

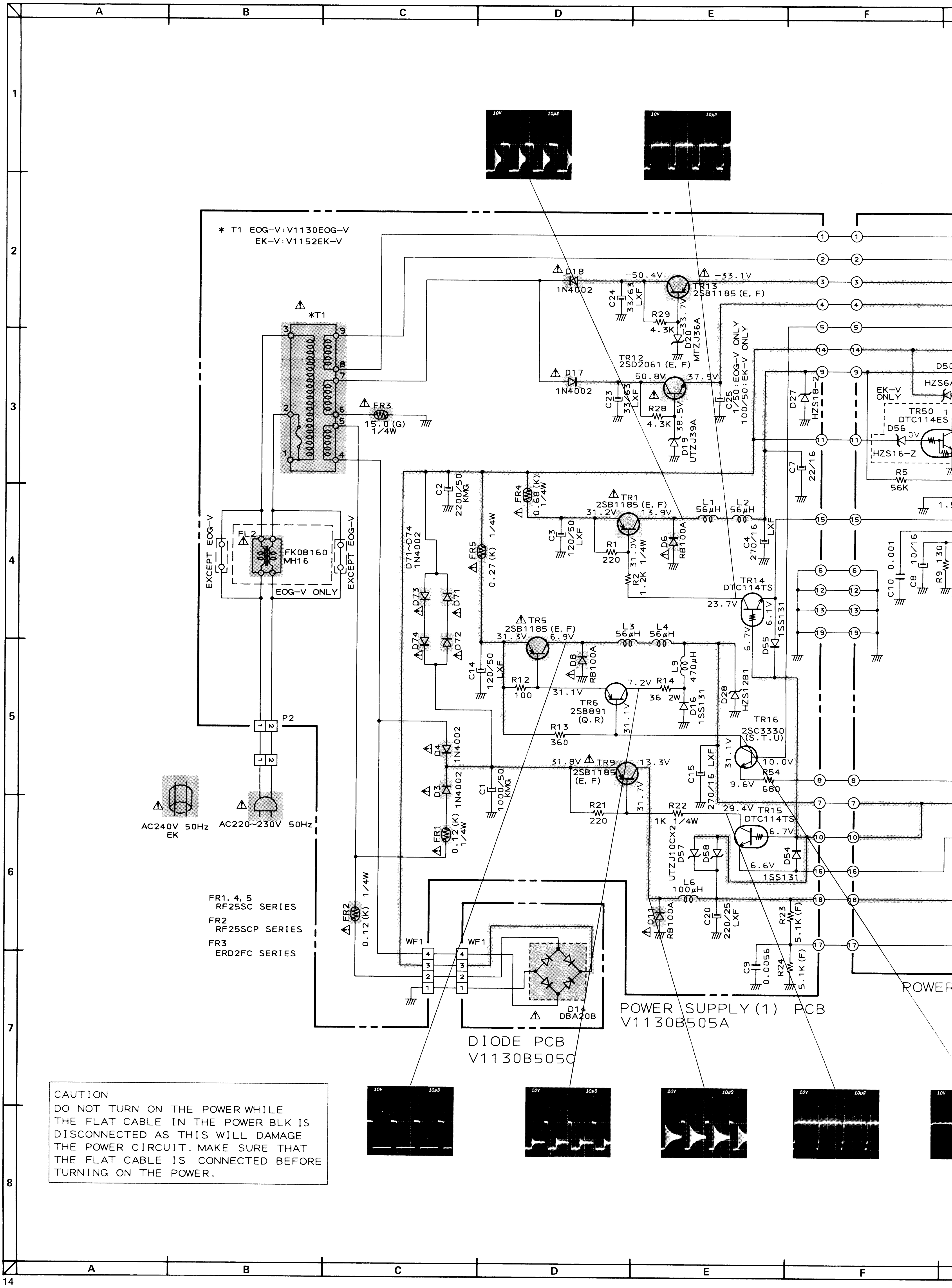


F
G
H
I
J
K
1
2
3
4
5
6
7
8
VIF UNIT
EO, EOG-V: 6C02413A1
EXCEPT EO, EOG-V : 6C02415A1
EOG-V ONLY
AFT
RF.AGC
V.OUT
GND
IF
VCC
A.OUT
U.AGC
V.AGC
TV TUNER
EK-V: TERB1-008B
EM: VTSS6CZ
EO, EOG-V: TERE1-007C
EOH: TERE3-001C
ES: TERE1-019B
RF IN
U
TU
VH
AGC
VL
*AFT
B
IF
*: EXCEPT EOH
HYP: EOH ONLY
RF CONVERTER
EK-V: ENC-87976
EM: YAA21-0454
EO, EOH, EOG-V : ENC-87975
ES: MDLK6B734A
ANT IN
RF OUT
VTR TV OUT
VIDEO IN
AUDIO IN
MOD
+B
NC
+B
WP2
GND
VPST OUT
GND
VPST IN
ADAPTABLE: EOH)
P1
RESET
VPS.RDY
VPS.SO
VPS.SI
VPS.CLK
201
ONLY
P803
GND
FROM VPST
GND
TO VPST
EOG-V, EK-V EOH, ONLY
P401
REC.C
PB.C
GND
NTSC
REC.Y
IDL 5V
V.SWP
REC.S.9V
TUNE
ENV.DET
PB.Y
SEC.MES
TRICK
HA-SW
ENV-SW
PB 5V
SP
FE.GND
GND
GND
GND
I.V OUT
EXT
TO SD.V
V.GND
V.IN
IDL 9V
A.IN
NT
A.OUT
A.MUTE
SP
A.REC
A.EE
ANC
TUNE
YNR (NC)
IDL 5V
MESECAM
V.J.
I.V.OUT
GND
1/2 FH
PB C.OUT
PB H.C
AFC-H
SD.P
V.SYNC
GND
SD.C
BGP1
S.DATA
STB
CLK
WP901
F.VIDEO
V.GND
F.V.SW
F.A.SW
A.GND
F.AUDIO
GND
MIC
WP801
A/C PB
GND
A/C REC
SE.H
EK-V, EOG-V EOH ONLY
P601
GND
AFC-H
CTL-
CTL+
WP801-2
MAIN (B) PCB
V1130A501B
MAIN (A) PCB
V1130A501A
P304
WP1
-35V
GND
AC4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC4V
BAND.C
P400
WP2
IDL 5V
SYS.SO
RESET
S.RADY
H.SYNC
SYS.SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
WP3/P3
VPS.CLK
VPS.SI
VPS.SO
VPS.RDY
RESET
WP3: EK-V EOG-V ONLY
P3: EOH ONLY
WP301
AC4V IN
AC4V IN
AC4V OUT
P1
AC4V OUT
AC4V IN
AC4V IN
C1 3300/10V
D2 MA719
D1 MA719
C2 3300/10
R1 3.3K
TR1 2SB1185
TR2 2SC3330
R2 3.3K
R3 330
R4 10K
R5 10K
TR3 2SC3330
R6 10K
R7 5.6K
R8 3.3K
D3 UTZ 3.3B
C3 330/6.3
6.6V
3.5V
5.9V
0.9V
0.3V
2.0V
0.6V
0V
SUB PCB
V1130D5210
EM ONLY
OPERATION (G) -A PCB
V1146B520A
P5
S1
S2
S3
C1
S4
GND
JOG2
JOG1
WP1
J2
J1
SW1 SRGPHJ
JOG SHUTTLE PCB
V1132C5080

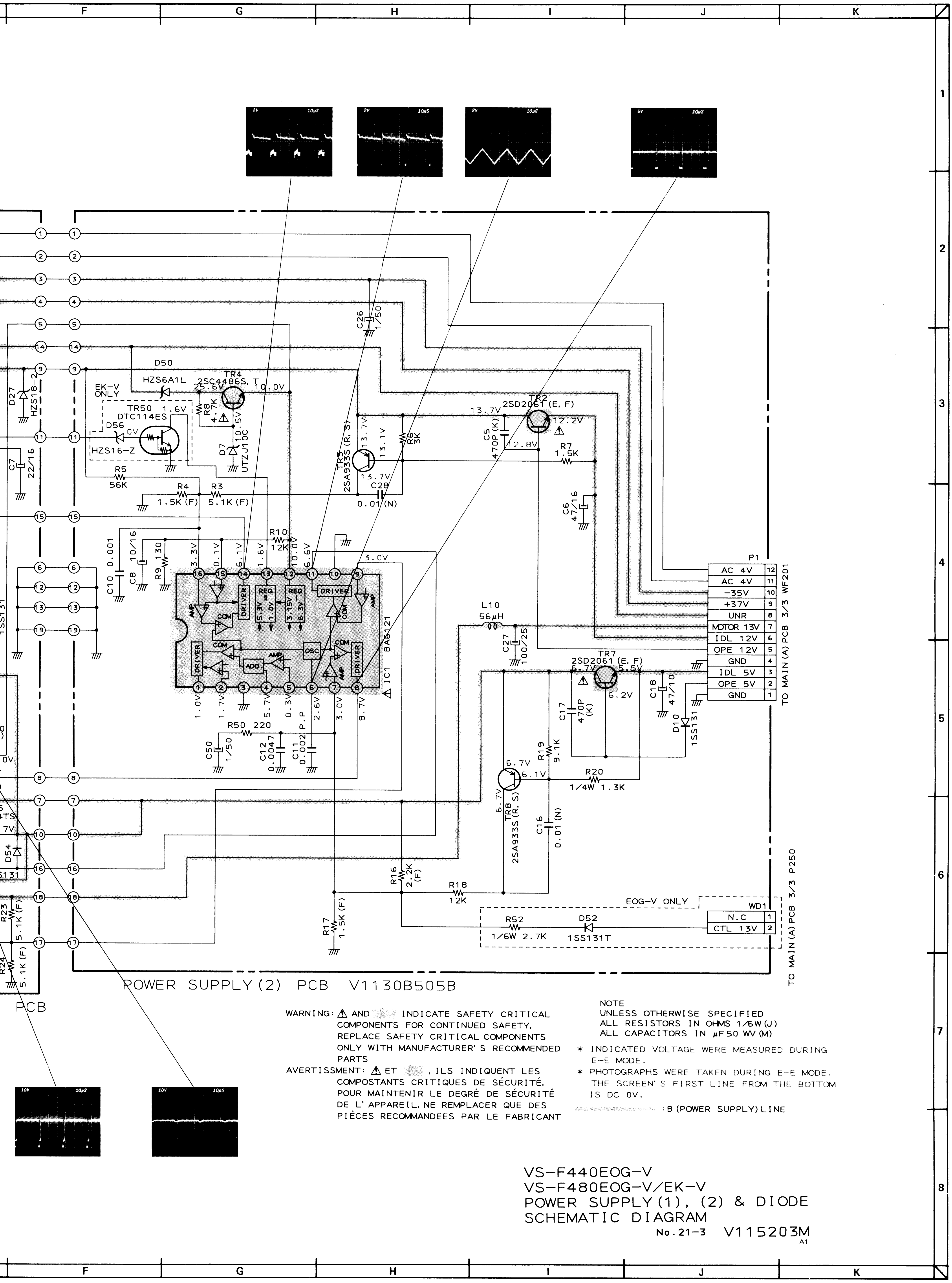
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF50 WV (K)
ALL INDUCTORS IN μH (K)

INDICATED VOLTAGE IN THE SUB PCB WERE MEASURED IN PB MODE.
(CONNECTED DC VOLTMETER'S GROUND TO THE P1 ③ PIN WHEN MEASURED)

VS-F480EK-V/EOG-V
VS-F490EM/EO/EOH/ES
VS-F497EOH
CONNECTION DIAGRAM
No.21-2 V115202M
A1


A
B
C
D
E
F
1
2
3
4
5
6
7
8
10V
10μS
∗ T1 EOG-V: V1130EOG-V
EK-V: V1152EK-V
∗T1
3
9
8
7
2
6
5
1
4
FR3
15.0 (G)
1/4W
D18
1N4002
-50.4V
TR13
2SB1185 (E, F)
-33.1V
C24
33/63
LXF
R29
4.3K
33.7V
D20
MTZJ36A
TR12
2SD2061 (E, F)
D17
1N4002
50.8V
37.9V
C23
33/63
LXF
R28
4.3K
38.5V
D19
UTZJ39A
C25
1/50: EOG-V ONLY
100/50: EK-V ONLY
D27
HZS18-2
EK-V
ONLY
TR50
DTC114ES
D56
0V
HZS16-Z
R5
56K
D50
HZS6
C7
22/16
EXCEPT EOG-V
FL2
FK0B160
MH16
EOG-V ONLY
C2
2200/50
KMG
FR4
0.68 (K)
1/4W
TR1
2SB1185 (E, F)
31.2V
13.9V
L1
56μH
L2
56μH
C3
120/50
LXF
R1
220
31.0V
D6
RB100A
R2
1.2K 1/4W
C4
270/16
LXF
D71~D74
1N4002
FR5
0.27 (K) 1/4W
TR14
DTC114TS
23.7V
6.1V
D55
1SS131
6.7V
D73
D71
D74
D72
TR5
2SB1185 (E, F)
31.3V
6.9V
L3
56μH
L4
56μH
C14
120/50
LXF
D8
RB100A
L9
470μH
R12
100
31.1V
7.2V
R14
36 2W
TR6
2SB891
(Q, R)
31.1V
D16
1SS131
D28
HZS12B1
TR16
2SC3330
(S, T, U)
R13
360
31.1V
10.0V
P2
D4
1N4002
D3
1N4002
31.8V
TR9
2SB1185
(E, F)
13.3V
C1
1000/50
KMG
C15
270/16 LXF
R54
680
9.6V
R21
220
31.7V
R22
1K 1/4W
29.4V
TR15
DTC114TS
6.7V
AC240V 50Hz
EK
AC220~230V 50Hz
FR1
0.12 (K)
1/4W
UTZJ10CX2
D57
D58
D54
6.6V
1SS131
L6
100μH
FR1, 4, 5
RF25SC SERIES
FR2
RF25SCP SERIES
FR3
ERD2FC SERIES
FR2
0.12 (K) 1/4W
D11
RB100A
C20
220/25
LXF
R23
5.1K (F)
C9
0.0056
R24
5.1K (F)
WF1
WF1
D14
DBA20B
POWER SUPPLY (1) PCB
V1130B505A
DIODE PCB
V1130B505C
POWER
C10
0.001
C8
10/16
R9
130
1.5
①
②
③
④
⑤
⑭
⑨
⑪
⑮
⑥
⑫
⑬
⑲
⑧
⑦
⑩
⑯
⑱
⑰

CAUTION
DO NOT TURN ON THE POWER WHILE THE FLAT CABLE IN THE POWER BLK IS DISCONNECTED AS THIS WILL DAMAGE THE POWER CIRCUIT. MAKE SURE THAT THE FLAT CABLE IS CONNECTED BEFORE TURNING ON THE POWER.


F
G
H
I
J
K
1
2
3
4
5
6
7
8
2V 10μS
2V 10μS
2V 10μS
5V 10μS
10V 10μS
10V 10μS
D50
HZS6A1L
TR4
2SC4486S, T
25.6V
10.0V
EK-V ONLY
TR50 DTC114ES
1.6V
D56
0V
HZS16-Z
R8 4.7K
D7 UTZJ10C
10.5V
D27 HZS18-2
C7 22/16
R5 56K
R4 1.5K (F)
R3 5.1K (F)
C26 1/50
TR3 2SA933S (R, S)
13.7V
13.1V
R6 3K
13.7V
C28 0.01 (N)
TR2 2SD2061 (E, F)
13.7V
12.2V
C5 470P (K)
12.8V
R7 1.5K
C6 47/16
C10 0.001
C8 10/16
R9 130
R10 12K
3.3V
0.1V
6.1V
1.6V
10.0V
6.6V
3.0V
DRIVER
REG 5.3V 1.0V
REG 3.15V 6.3V
DRIVER
AMP
COM
COM
ADD
AMP
OSC
COM
AMP
IC1 BA6121
1.0V
1.7V
5.7V
0.3V
2.6V
3.0V
8.7V
R50 220
C50 1/50
C12 0.0047
P.P
C11 0.002
L10 56μH
C27 100/25
TR7 2SD2061 (E, F)
6.7V
5.5V
6.2V
C17 470P (K)
C18 47/10
D10 1SS131
R19 9.1K
TR8 2SA933S (R, S)
6.7V
6.1V
6.7V
R20 1/4W 1.3K
C16 0.01 (N)
R16 2.2K (F)
R18 12K
R17 1.5K (F)
P1
AC 4V 12
AC 4V 11
-35V 10
+37V 9
UNR 8
MOTOR 13V 7
IDL 12V 6
OPE 12V 5
GND 4
IDL 5V 3
OPE 5V 2
GND 1
TO MAIN (A) PCB 3/3 WF201
EOG-V ONLY
R52 1/6W 2.7K
D52 1SS131T
WD1
N.C 1
CTL 13V 2
TO MAIN (A) PCB 3/3 P250
1SS131
D54
R23 5.1K (F)
R24 5.1K (F)
POWER SUPPLY (2) PCB V1130B505B
PCB

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

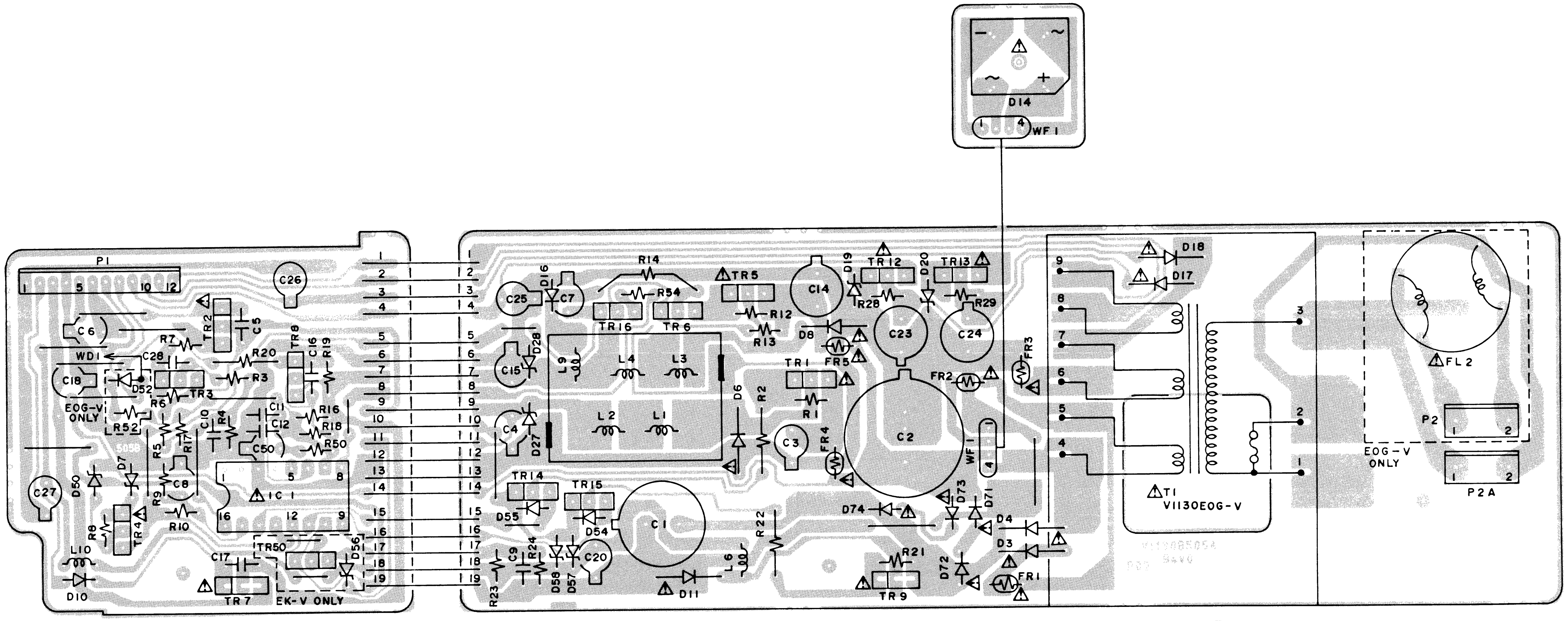
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF50 WV (M)

- * INDICATED VOLTAGE WERE MEASURED DURING E-E MODE.
- * PHOTOGRAPHS WERE TAKEN DURING E-E MODE. THE SCREEN'S FIRST LINE FROM THE BOTTOM IS DC 0V.

▨ : B (POWER SUPPLY) LINE

VS-F440EOG-V
VS-F480EOG-V/EK-V
POWER SUPPLY (1), (2) & DIODE
SCHEMATIC DIAGRAM
No.21-3 V115203M
A1

DIODE PCB
V1130B505C(J1)
(EOG-V, EK-V ONLY)


D14
WF1
P1
C26
C27
C6
C18
C28
WD1
D52
TR2
TR3
TR8
C5
C16
R19
R20
R3
R7
R6
EOG-V ONLY
R52
R5
R17
C10
R4
C11
C12
R16
R18
R50
C50
C8
R9
R10
IC1
D50
D7
R8
TR4
L10
D10
C17
TR50
D56
TR7
EK-V ONLY
R14
R54
TR16
TR6
TR5
R12
R13
D8
C14
D19
TR12
D20
TR13
R28
R29
C23
C24
FR3
FR5
TR1
R1
FR2
C25
D16
C7
D28
L9
L4
L3
C15
L2
L1
D6
R2
C4
D27
C3
FR4
C2
WF1
TR14
TR15
D55
D54
C1
D74
D73
D71
D4
D3
R22
R23
C9
R24
D58
D57
C20
L6
D11
R21
TR9
D72
FR1
D18
D17
T1
V1130EOG-V
FL2
P2
P2A
EOG-V ONLY

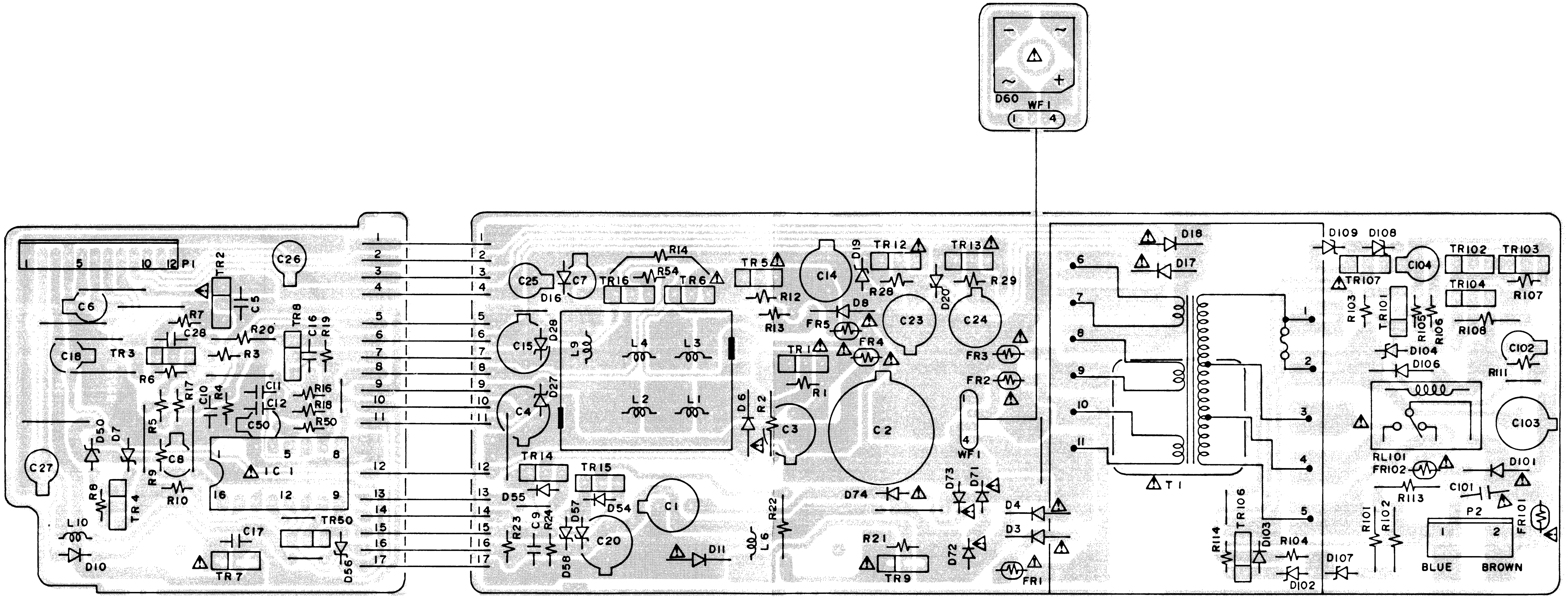
POWER SUPPLY(2) PCB
V1130B505B(J1)
(EOG-V, EK-V ONLY)

POWER SUPPLY(1) PCB V1130B505A(J1)
(EOG-V, EK-V ONLY)

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

DIODE PCB
V1130B506C(J1)(EM ONLY)

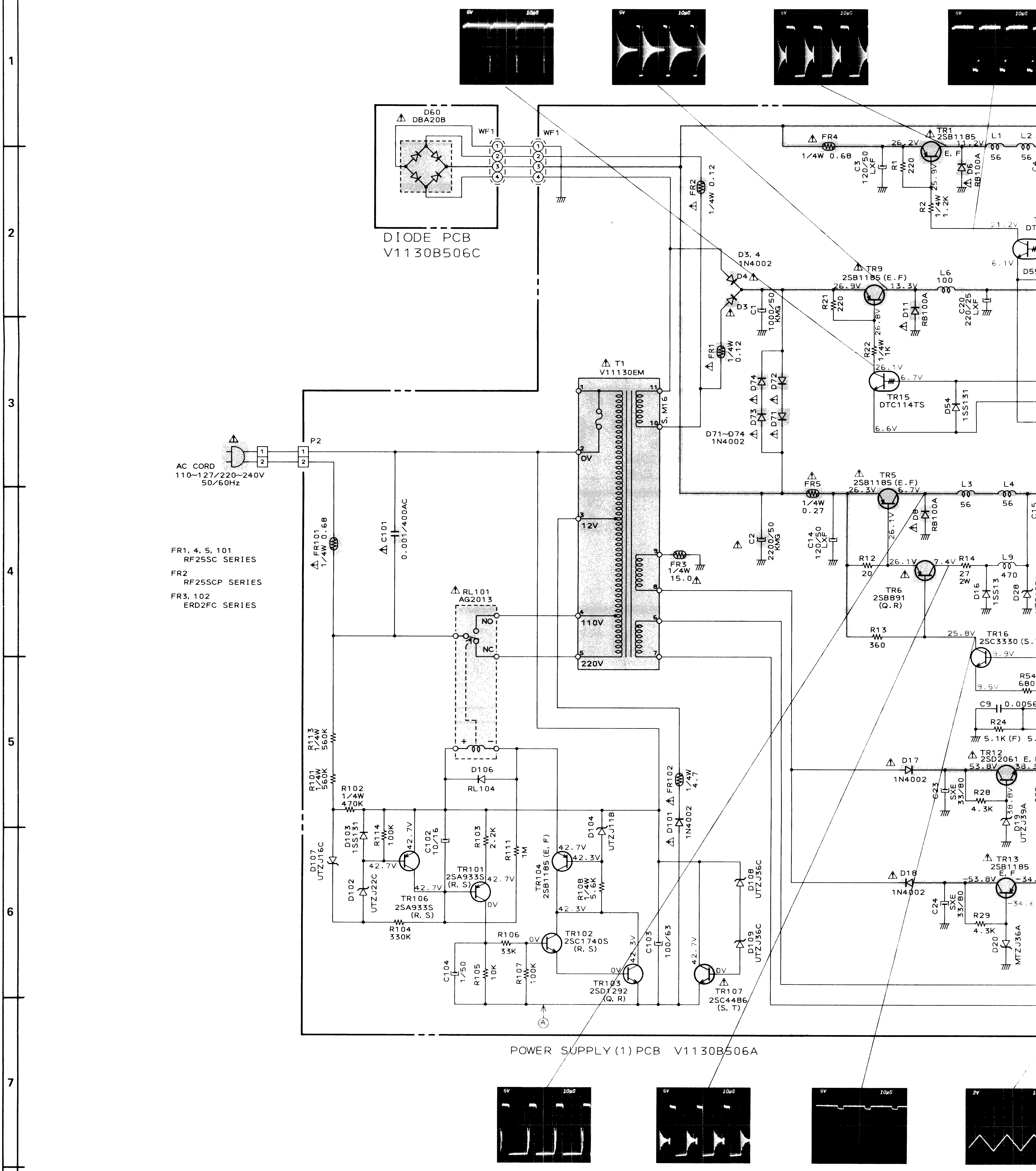

D60
WF1
1 4
P1
1 5 10 12
C26
C6
TR2
C5
R7
C28
R20
TR8
C16
R19
C18
TR3
R3
R6
R17
R4
C10
C11
C12
R16
R18
R50
C50
R5
C8
R9
R10
D50
D7
IC1
1 5 8
16 12 9
C27
R8
TR4
L10
D10
C17
TR50
TR7
D56
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
C25
C7
D16
TR16
R14
R54
TR6
TR5
R12
R13
C14
D19
TR12
R28
TR13
R29
D20
D8
C23
C24
C15
D28
L9
L4
L3
L2
L1
D27
C4
FR5
FR4
TR1
R1
FR3
FR2
D6
R2
C3
C2
WF1
TR14
TR15
D55
D54
C1
R23
C9
R24
D57
D58
C20
D11
R22
L6
D74
D73
D71
D72
D4
D3
R21
TR9
FR1
D18
D17
6 7 8 9 10 11
1 2 3 4 5
T1
TR106
R114
D103
R104
D102
D109
D108
TR107
C104
TR102
TR103
TR104
R107
R103
TR101
R105
R106
R108
D104
D106
C102
R111
C103
RL101
FR102
R113
C101
D101
R101
R102
P2
1 2
BLUE
BROWN
FR101
D107

POWER SUPPLY (2) PCB
V1130B506B(J1)(EM ONLY)

POWER SUPPLY(1) PCB V1130B506A(J1)(EM ONLY)

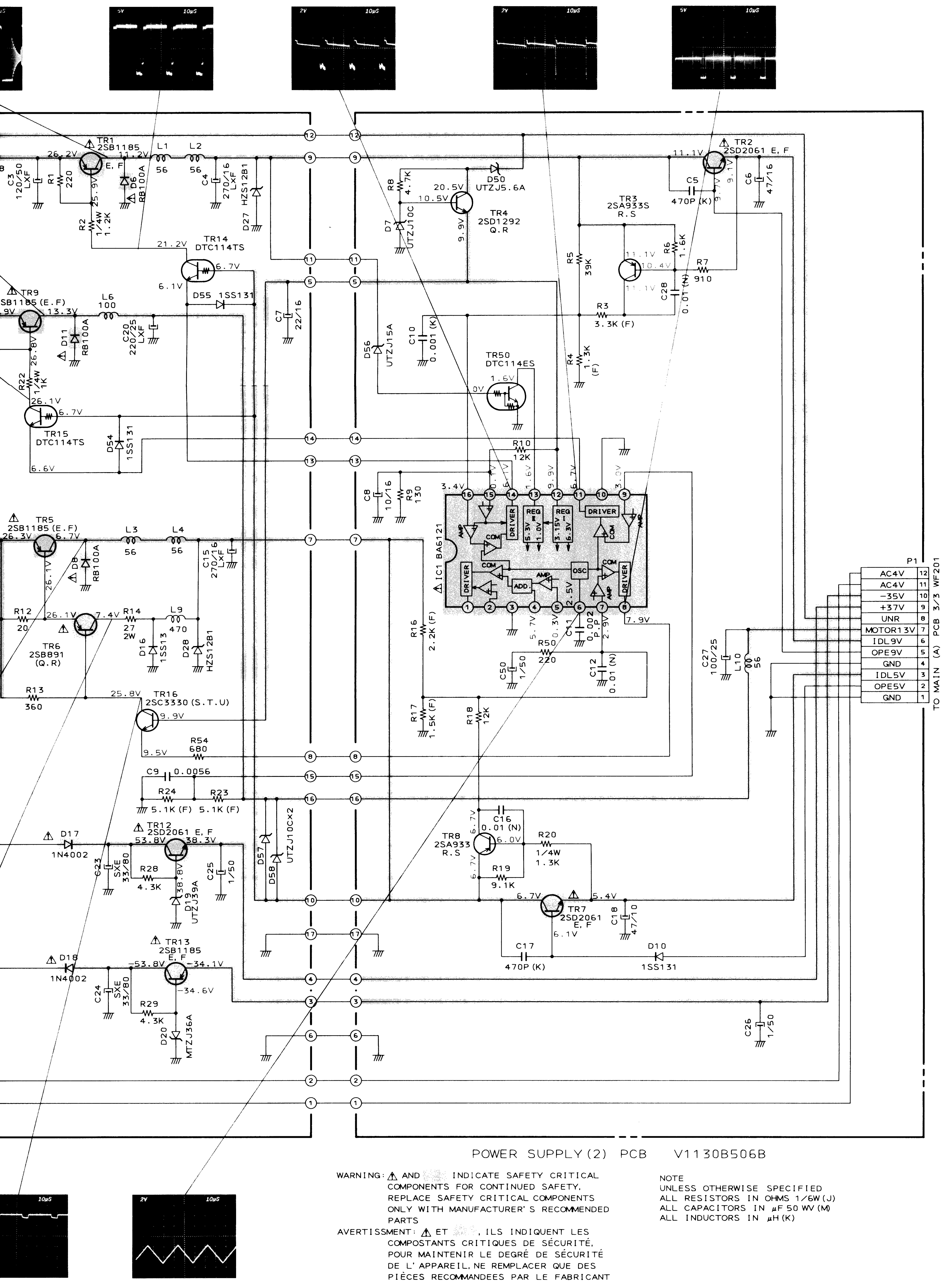
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


5V 10μS
D60
DBA20B
WF1
DIODE PCB
V1130B506C
FR4
1/4W 0.68
TR1
2SB1185
E, F
26.2V
11.2V
C3
120/50
LXF
R1
220
25.9V
D6
RB100A
R2
1/4W
1.2K
L1
56
L2
56
21.2V
6.1V
FR2
1/4W 0.12
D3, 4
1N4002
D4
D3
C1
100/50
KMG
TR9
2SB1185 (E.F)
26.9V
13.3V
R21
220
26.8V
D11
RB100A
L6
100
C20
220/25
LXF
R22
1/4W
1K
FR1
1/4W
0.12
26.1V
6.7V
TR15
DTC114TS
D54
1SS131
6.6V
D74
D72
D73
D71
D71~D74
1N4002
T1
V11130EM
S, M16
0V
12V
110V
220V
AC CORD
110~127/220~240V
50/60Hz
P2
FR1, 4, 5, 101
RF25SC SERIES
FR2
RF25SCP SERIES
FR3, 102
ERD2FC SERIES
FR101
1/4W 0.68
C101
0.001/400AC
RL101
AG2013
NO
NC
FR3
1/4W
15.0
FR5
1/4W
0.27
TR5
2SB1185 (E.F)
26.3V
6.7V
D8
RB100A
L3
56
L4
56
C2
2200/50
KMG
C14
120/50
LXF
R12
20
26.1V
7.4V
R14
27
2W
L9
470
TR6
2SB891
(Q.R)
D16
1SS131
D28
R13
360
25.8V
TR16
2SC3330 (S.
9.9V
9.5V
R54
680
C9
0.0056
R24
5.1K (F)
R113
1/4W
560K
R101
1/4W
560K
R102
1/4W
470K
D106
RL104
D17
1N4002
TR12
2SD2061 E.
53.8V
38.
C23
SXE
33/80
R28
4.3K
38.8V
D19
UTZJ39A
D107
UTZJ16C
D103
1SS131
R114
100K
42.7V
C102
10/16
R103
2.2K
R111
1M
TR101
2SA933S
(R, S)
42.7V
0V
D102
UTZJ22C
TR106
2SA933S
(R, S)
R104
330K
TR104
2SB1185 (E, F)
42.3V
D104
UTZJ11B
R108
1/4W
5.6K
FR102
1/4W
4.7
D101
1N4002
D108
UTZJ36C
D109
UTZJ36C
TR13
2SB1185
E, F
D18
1N4002
-53.8V
-34.
C24
SXE
33/80
R29
4.3K
D20
MTZJ36A
R106
33K
TR102
2SC1740S
(R, S)
C103
100/63
C104
1/50
R105
10K
R107
100K
TR103
2SD1292
(Q, R)
TR107
2SC4486
(S, T)
A
POWER SUPPLY (1) PCB V1130B506A
2V

CAUTION
DO NOT TURN ON THE POWER WHILE THE FLAT CABLE IN THE POWER BLK IS DISCONNECTED AS THIS WILL DAMAGE THE POWER CIRCUIT. MAKE SURE THAT THE FLAT CABLE IS CONNECTED BEFORE TURNING ON THE POWER.

- * INDICATED VOLTAGES WERE MEASURED DURING E-E MOD
  CONNECTED DC VOLTMETER'S NEGATIVE INPUT TO THE
  Ⓐ POINT WHEN MEASURED THE PRIMARY SECTION AND
  PRIMARY INPUT WAS AC 220V.
- * PHOTOGRAPHS WERE TAKEN DURING E-E MODE.
  THE SCREEN'S FIRST LINE FROM THE BOTTOM IS DC


5V 10µS
2V 10µS
2V 10µS
5V 10µS
TR1 2SB1185 E, F
TR2 2SD2061 E, F
TR3 2SA933S R.S
TR4 2SD1292 Q.R
TR5 2SB1185 (E.F)
TR6 2SB891 (Q.R)
TR7 2SD2061 E, F
TR8 2SA933 R.S
TR9 2SB1185 (E.F)
TR12 2SD2061 E, F
TR13 2SB1185 E, F
TR14 DTC114TS
TR15 DTC114TS
TR16 2SC3330 (S.T.U)
TR50 DTC114ES
IC1 BA6121
DRIVER
REG
COM
AMP
OSC
ADD.
D50 UTZJ5.6A
D55 1SS131
D54 1SS131
D56 UTZJ15A
D57 D58 UTZJ10Cx2
D10 1SS131
D17 1N4002
D18 1N4002
D19 UTZJ39A
D20 MTZJ36A
D27 HZS12B1
D28 HZS12B1
L1 56
L2 56
L3 56
L4 56
L6 100
L9 470
L10 56
P1
AC4V 12
AC4V 11
-35V 10
+37V 9
UNR 8
MOTOR13V 7
IDL9V 6
OPE9V 5
GND 4
IDL5V 3
OPE5V 2
GND 1
TO MAIN (A) PCB 3/3 WF201
2V 10µS

POWER SUPPLY (2) PCB V1130B506B

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

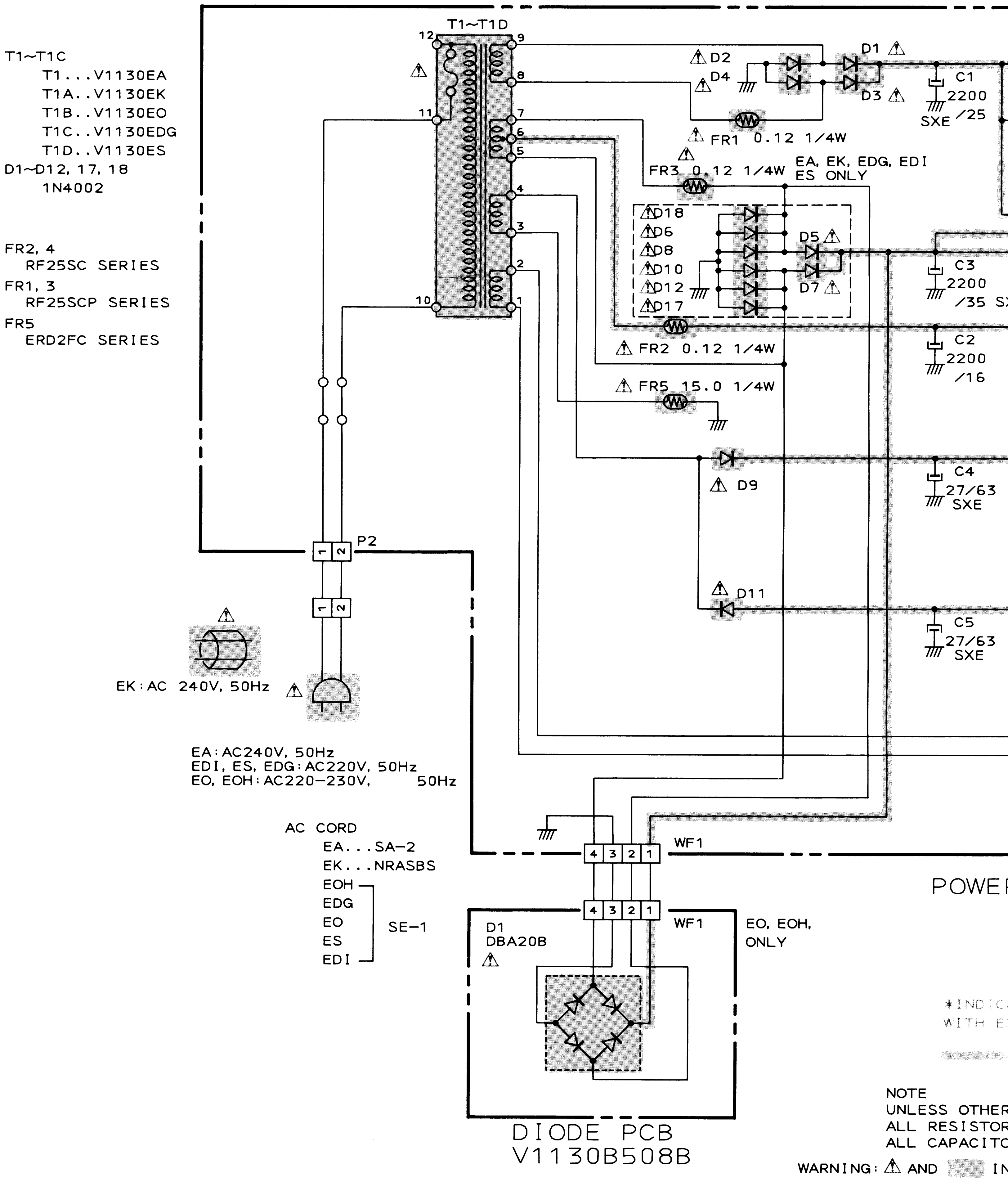
AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50 WV (M)
ALL INDUCTORS IN µH (K)

▨ B (POWER SUPPLY LINE)

TAGES WERE MEASURED DURING E-E MODE.
VOLTMETER'S NEGATIVE INPUT TO THE
MEASURED THE PRIMARY SECTION AND
WAS AC 220V.
ERE TAKEN DURING E-E MODE.
FIRST LINE FROM THE BOTTOM IS DC 0V.

VS-F440EM, F490EM
POWER SUPPLY (1), (2) & DIODE
SCHEMATIC DIAGRAM
No.21-4 V115204M
A1

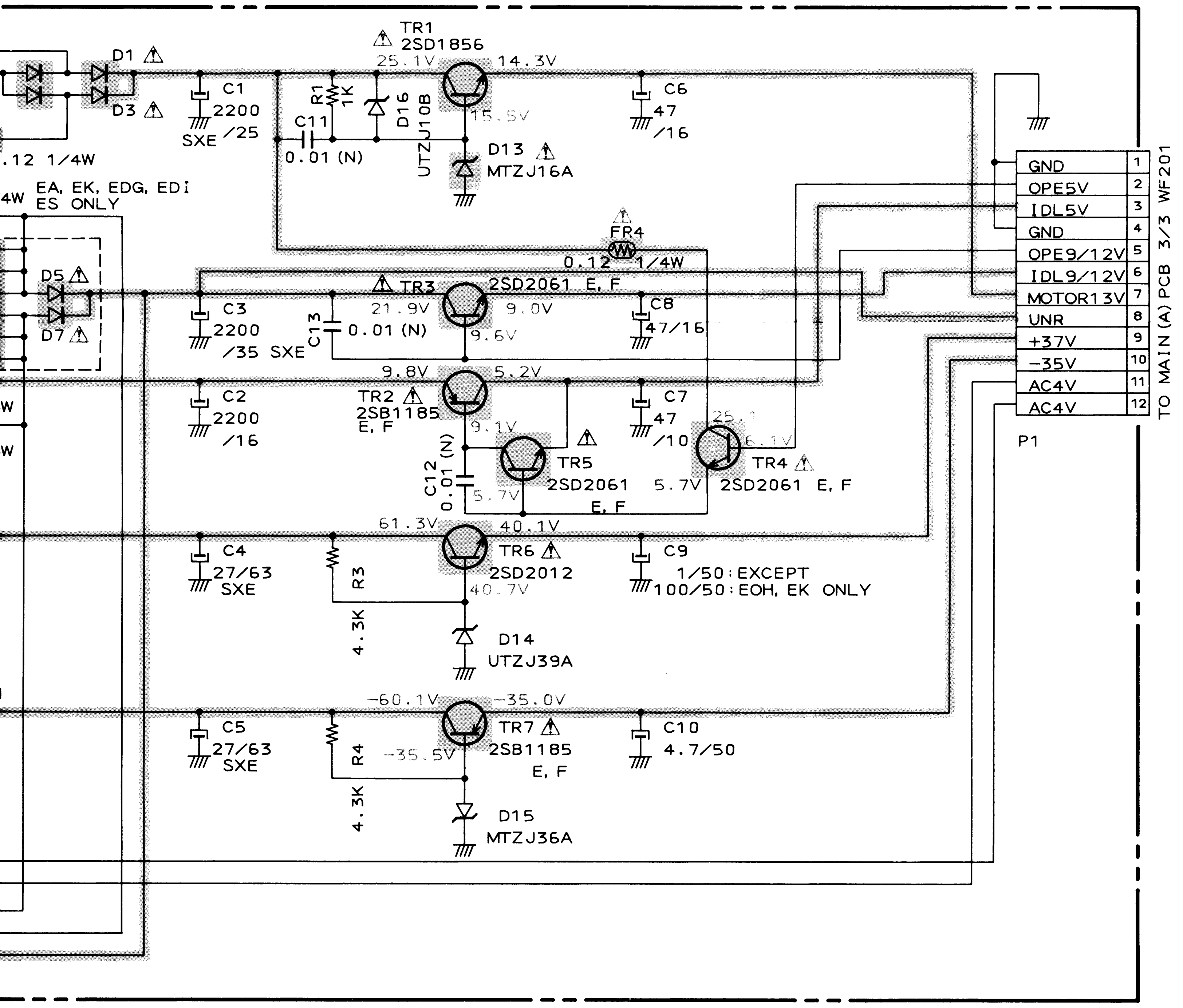

T1~T1C
T1...V1130EA
T1A..V1130EK
T1B..V1130EO
T1C..V1130EDG
T1D..V1130ES
D1~D12, 17, 18
1N4002
FR2, 4
RF25SC SERIES
FR1, 3
RF25SCP SERIES
FR5
ERD2FC SERIES
T1~T1D
12
11
10
9
8
7
6
5
4
3
2
1
D2
D4
D1
D3
C1
2200
/25
SXE
FR1 0.12 1/4W
FR3 0.12 1/4W
EA, EK, EDG, EDI
ES ONLY
D18
D6
D8
D10
D12
D17
D5
D7
C3
2200
/35 S
C2
2200
/16
FR2 0.12 1/4W
FR5 15.0 1/4W
D9
C4
27/63
SXE
D11
C5
27/63
SXE
P2
1
2
EK: AC 240V, 50Hz
EA: AC240V, 50Hz
EDI, ES, EDG: AC220V, 50Hz
EO, EOH: AC220-230V, 50Hz
AC CORD
EA...SA-2
EK...NRASBS
EOH
EDG
EO
ES
EDI
SE-1
WF1
4 3 2 1
D1
DBA20B
EO, EOH,
ONLY
DIODE PCB
V1130B508B
POWE

*INDIC
WITH E

NOTE
UNLESS OTHER
ALL RESISTOR
ALL CAPACITO

WARNING: ⚠ AND ▨ IN
COMPONENTS F
REPLACE SAFE
ONLY WITH MA
PARTS

AVERTISSMENT: ⚠ ET ▨
COMPOSTANTS
POUR MAINTEN
DE L' APPAREI
PIÈCES RECOM


D1 ⚠
D3 ⚠
.12 1/4W
4W EA, EK, EDG, EDI ES ONLY
D5 ⚠
D7 ⚠
W
W
C1
2200
SXE /25
R1
1K
C11
0.01 (N)
D16
UTZJ10B
⚠ TR1
2SD1856
25.1V
14.3V
15.5V
D13 ⚠
MTZJ16A
C6
47
/16
⚠
FR4
0.12 1/4W
C3
2200
/35 SXE
C13
0.01 (N)
⚠ TR3
2SD2061 E, F
21.9V
9.0V
9.6V
C8
47/16
C2
2200
/16
9.8V
5.2V
TR2 ⚠
2SB1185
E, F
9.1V
C12
0.01 (N)
5.7V
⚠
TR5
2SD2061
E, F
C7
47
/10
25.
6.1V
5.7V
TR4 ⚠
2SD2061 E, F
C4
27/63
SXE
R3
4.3K
61.3V
40.1V
TR6 ⚠
2SD2012
40.7V
D14
UTZJ39A
C9
1/50 : EXCEPT
100/50 : EOH, EK ONLY
C5
27/63
SXE
R4
4.3K
−60.1V
−35.0V
−35.5V
TR7 ⚠
2SB1185
E, F
D15
MTZJ36A
C10
4.7/50
GND 1
OPE5V 2
IDL5V 3
GND 4
OPE9/12V 5
IDL9/12V 6
MOTOR13V 7
UNR 8
+37V 9
−35V 10
AC4V 11
AC4V 12
P1
TO MAIN (A) PCB 3/3 WF201

POWER SUPPLY PCB V1130B5040 (EA.EDI.EDG.ES ONLY)
V1130B5120 (EK ONLY)
V1130B508A (EO.EOH.ONLY)

, EOH,
NLY

*INDICATED VOLTAGES WERE MEASURED DURING E-E MODE
WITH EDG MODEL.

▨ B (POWER SUPPLY) LINE

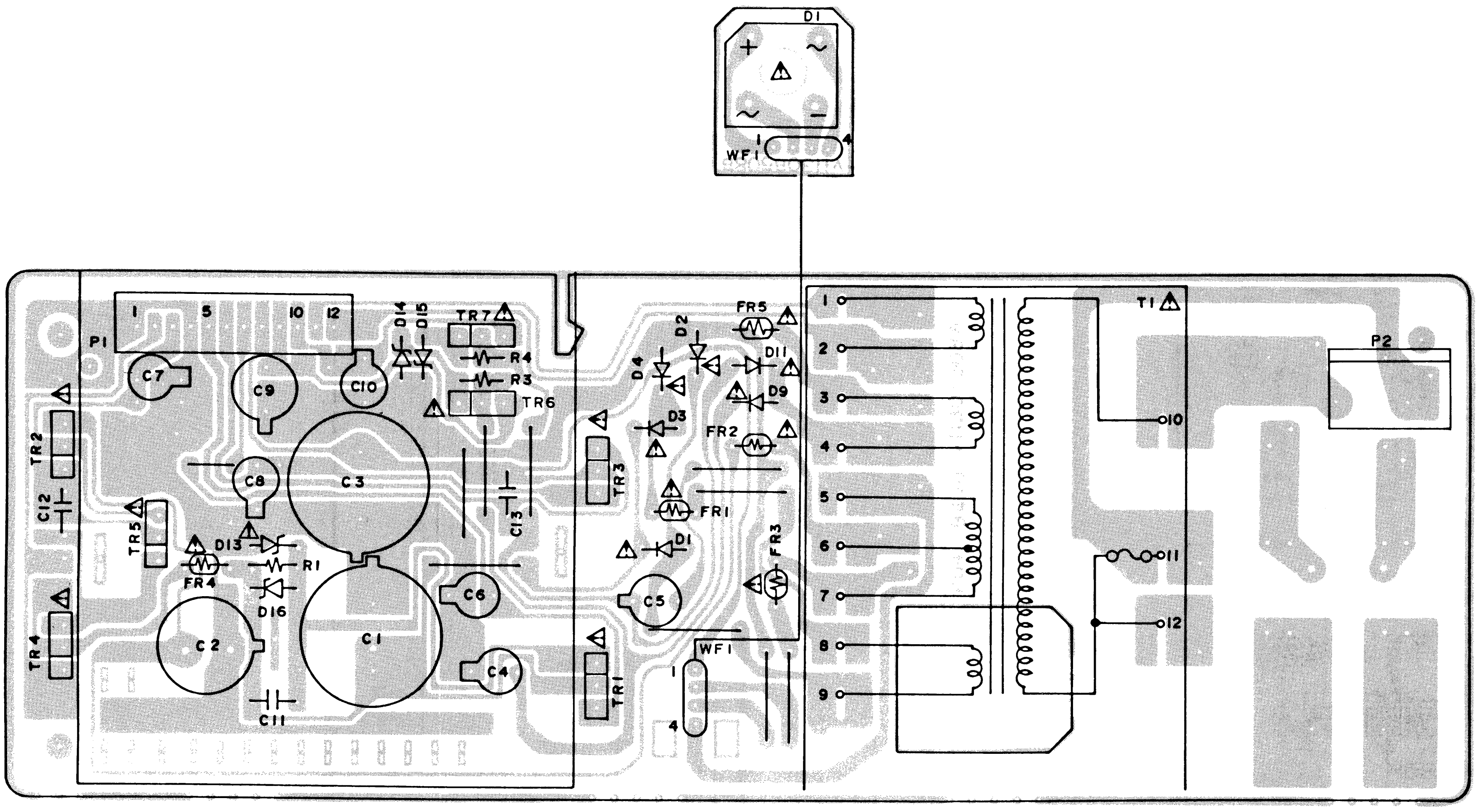
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER' S RECOMMENDED PARTS

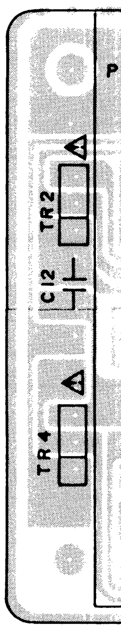
AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L' APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

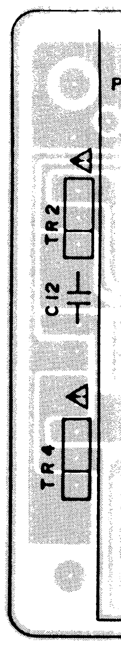
VS-F440EA/EDG/EK/EO/EOH
VS-F441EA, F450EOH, F455EOH
VS-F490EO/EOH/ES, F497EOH
POWER SUPPLY & DIODE
SCHEMATIC DIAGRAM
No.21-5 V115205M
A2

DIODE PCB
V1130B508B


D1
+
~
~
−
WF1
1
4
P1
1
5
10
12
D14
D15
TR7
R4
R3
TR6
C7
C9
C10
C8
C3
C13
TR2
C12
TR5
D13
R1
FR4
D16
TR4
C2
C1
C11
C6
C4
C5
TR3
TR1
WF1
1
4
D2
D4
D3
D1
FR5
D11
D9
FR2
FR1
FR3
1
2
3
4
5
6
7
8
9
10
11
12
T1
P2

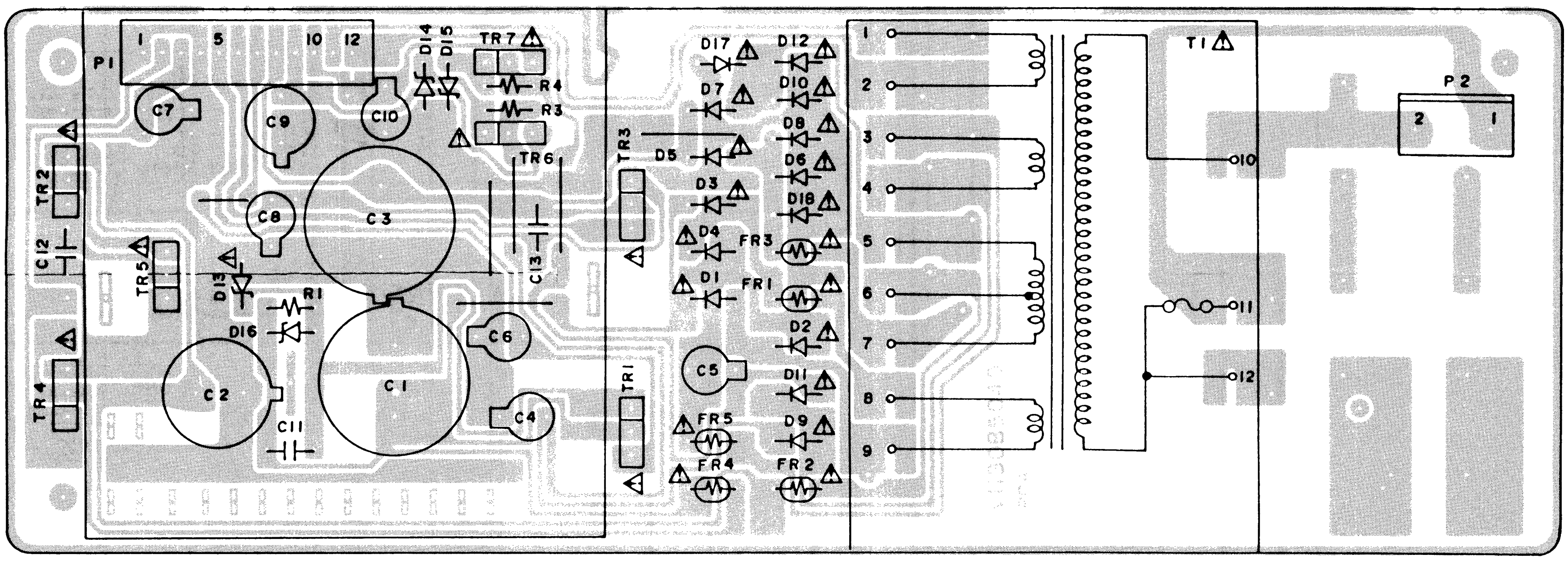
POWER SUPPLY PCB V1130B508A(J3)(EO.EOH.ONLY)


P
TR2
C12
TR4

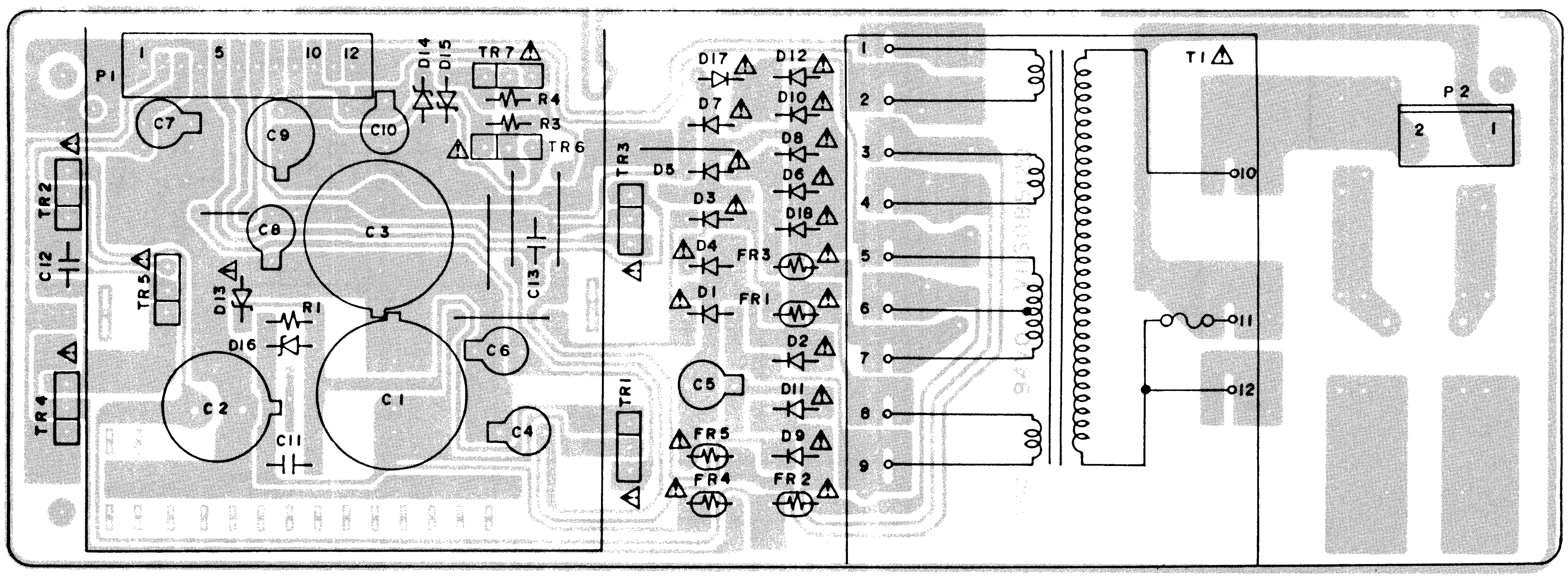

P
TR2
C12
TR4

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


P1
1
5
10
12
D14
D15
TR7
R4
R3
TR6
C7
C9
C10
TR2
C12
C3
C8
TR5
D13
R1
D16
C13
TR3
TR4
C2
C11
C1
C6
C4
TR1
D17
D12
D7
D10
D8
D5
D6
D3
D18
D4
FR3
D1
FR1
C5
D2
D11
FR5
D9
FR4
FR2
1
2
3
4
5
6
7
8
9
T1
10
11
12
P2
2
1

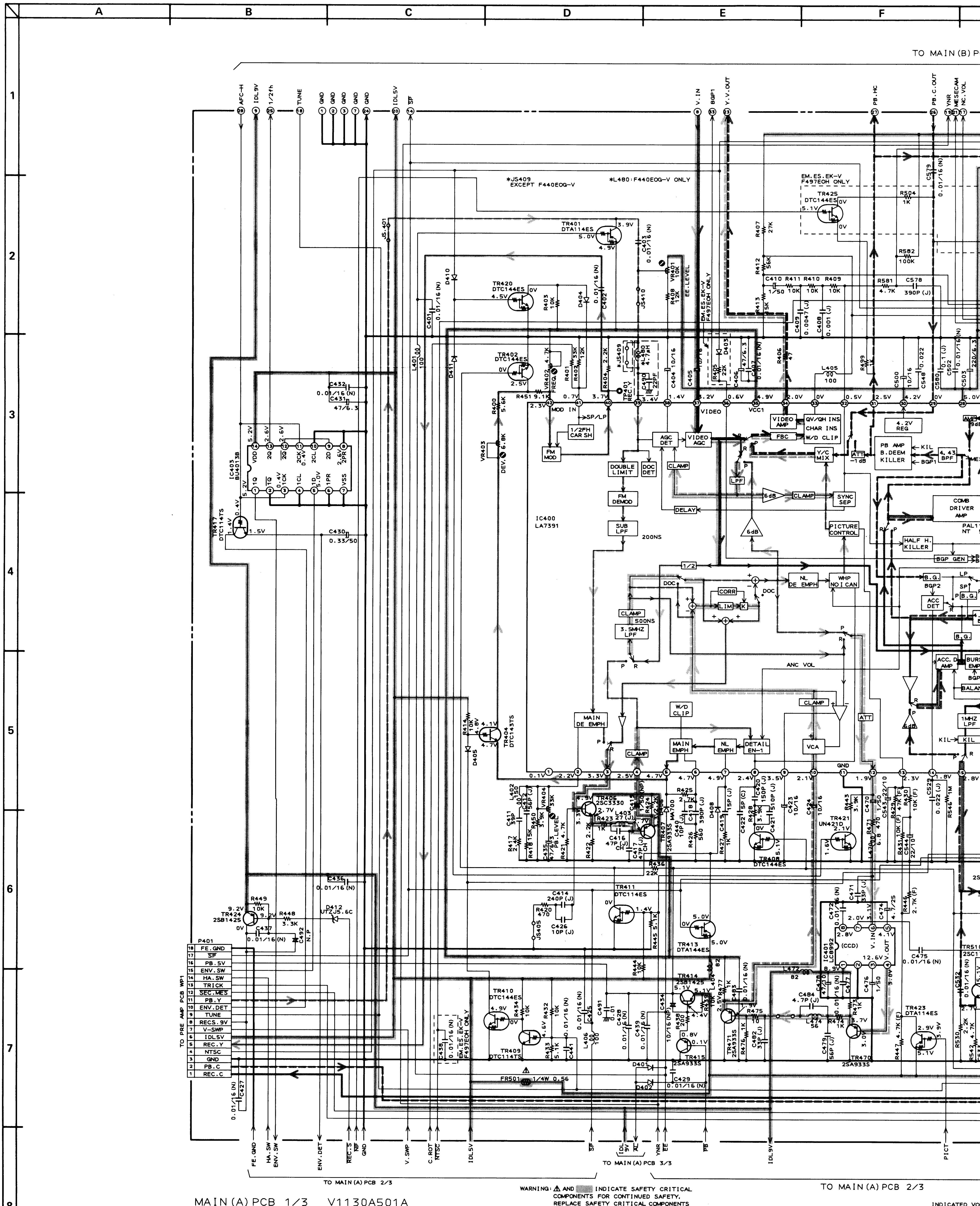
POWER SUPPLY PCB V1130B5040(J3) (EA, ES, EDG, EDI ONLY)


P1
1
5
10
12
D14
D15
TR7
R4
R3
TR6
C7
C9
C10
TR2
C12
C3
C8
TR5
D13
R1
D16
C13
TR3
TR4
C2
C11
C1
C6
C4
TR1
D17
D12
D7
D10
D8
D5
D6
D3
D18
D4
FR3
D1
FR1
C5
D2
D11
FR5
D9
FR4
FR2
1
2
3
4
5
6
7
8
9
T1
10
11
12
P2
2
1

POWER SUPPLY PCB V1130B5120(J1) (EK ONLY)

NTINUED SAFETY,
MANUFACTURER'S

SÉCURITÉ.
EIL,
R LE FABRICANT



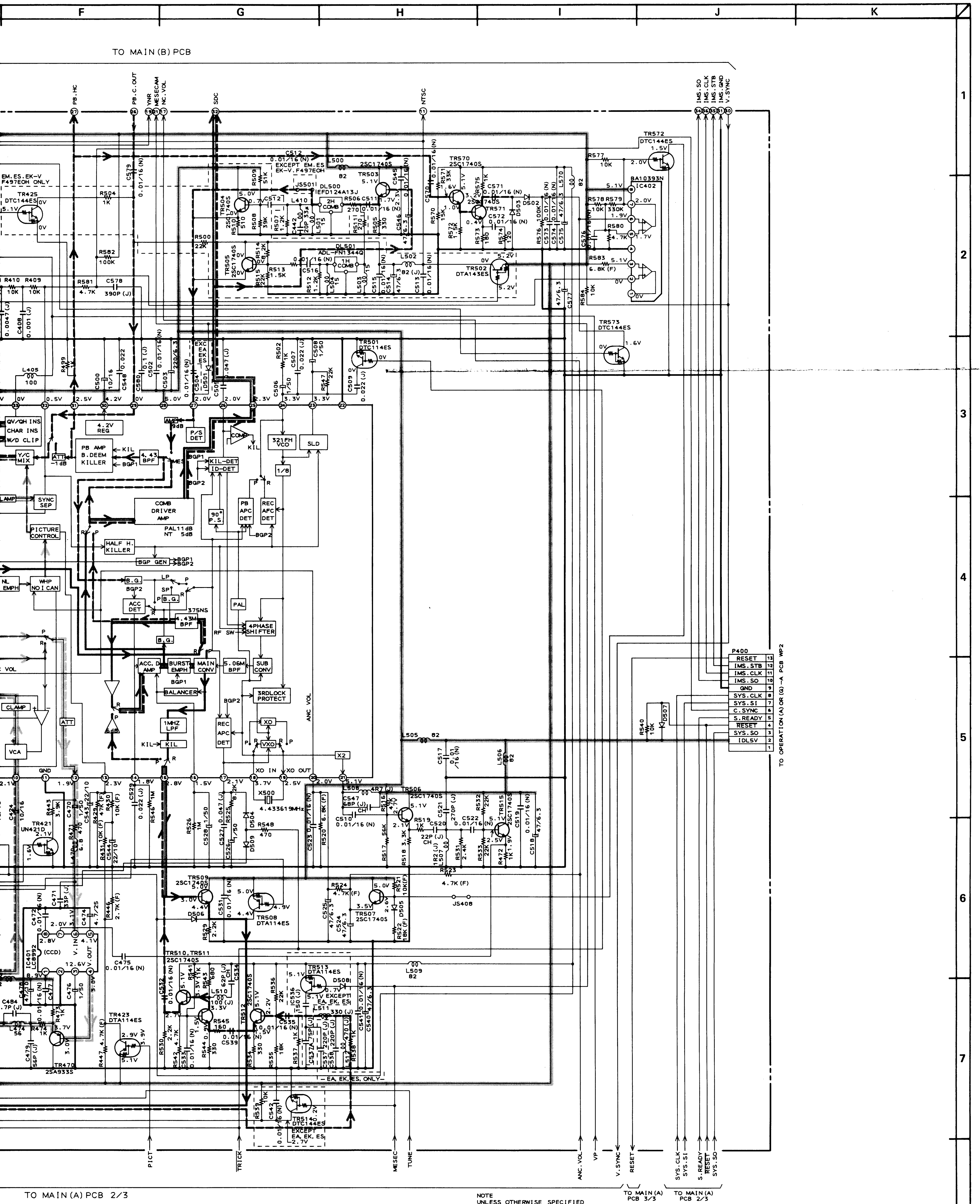
A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO MAIN(B)P
AFC-H
IDL9V
1/2fh
TUNE
GND
IDL5V
SP
V.IN
BGP1
Y.V.OUT
PB.HC
PB.C.OUT
YNR
MESECAM
NC.VOL
*JS409 EXCEPT F440EOG-V
*L480:F440EOG-V ONLY
EM.ES.EK-V F497EOH ONLY
TR425 DTC144ES
TR401 DTA114ES
TR420 DTC144ES
TR402 DTC144ES
TR404 DTC143TS
TR417 DTC114TS
TR424 2SB1425
TR406 2SC3330
TR407 2SA933S
TR408 DTC144ES
TR421 UN421D
TR411 DTC114ES
TR413 DTA144ES
TR414 2SB1425
TR410 DTC144ES
TR409 DTC114TS
TR415 2SA933S
TR471 2SA933S
TR470 2SA933S
TR423 DTA114ES
IC403 BU4013B
IC400 LA7391
IC401 LC8992 (CCD)
VR401 EE.LEVEL
VR402 FREQ.
VR403 DEV.
VR404 PB LEVEL
D412 UTZJ5.6C
FR501 1/4W 0.56
MOD IN
SP/LP
1/2FH CAR SH
FM MOD
AGC DET
VIDEO AGC
VIDEO
VCC1
VIDEO AMP
QV/QH INS CHAR INS W/D CLIP
FBC
Y/C MIX
ATT -1dB
PB AMP B.DEEM KILLER
KIL
BGP1
4.43 BPF
4.2V REG
DOUBLE LIMIT
DOC DET
CLAMP
FM DEMOD
SUB LPF
200NS
DELAY
LPF
6dB
SYNC SEP
PICTURE CONTROL
COMB DRIVER AMP
HALF H. KILLER
BGP GEN
1/2
DOC
CORR
LIM
NL DE EMPH
WHP NOI CAN
B.G.
BGP2
ACC DET
CLAMP 500NS
3.5MHZ LPF
ANC VOL
ACC. D AMP
BURS EMP
BGP
BALAN
1MHZ LPF
W/D CLIP
MAIN DE EMPH
MAIN EMPH
NL EMPH
DETAIL EN-1
VCA
ATT
GND
P401
FE.GND
SP
PB.5V
ENV.SW
HA.SW
TRICK
SEC.MES
PB.Y
ENV.DET
RECS.9V
V-SWP
IDL5V
REC.Y
NTSC
TUNE
GND
PB.C
REC.C
TO PRE AMP PCB WP1
FE.GND
HA.SW
ENV.SW
ENV.DET
REC.S
NP
GND
V.SWP
C.ROT
NTSC
IDL5V
SP
IDL 9V
AL
YNR
EE
PB
IDL9V
PICT
TO MAIN (A) PCB 3/3
TO MAIN (A) PCB 2/3
TO MAIN (A) PCB 2/3

MAIN (A) PCB 1/3 V1130A501A

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

INDICATED VO
MEASURED DUR
(TAPE SPEED:
(PLAYING BAC



F
G
H
I
J
K
1
2
3
4
5
6
7
8
TO MAIN (B) PCB
PB.HC
PB.C.OUT
VNR
MESECAM
NC.VOL
SDC
NTSC
IMS.SO
IMS.CLK
IMS.STB
IMS.GND
V.SYNC
TR572
DTC144ES
BA10393N
IC402
TR570
2SC1740S
TR571
TR503
TR504
TR505
TR502
DTA143ES
TR573
DTC144ES
TR501
DTC114ES
TR425
DTC144ES
EM.ES.EK-V
F497EOH ONLY
C512
0.01/16 (N)
EXCEPT EM.ES
EK-V.F497EOH
DL500
IEFD124A13J
DL501
ADL-FN1344Q
2H COMB
1H COMB
JS501
4.2V REG
QV/QH INS
CHAR INS
W/D CLIP
PB AMP
B.DEEM
KILLER
4.43 BPF
Y/C MIX
ATT
SYNC SEP
P/S DET
COMP
KIL-DET
ID-DET
321FH VCO
SLD
1/8
COMB DRIVER AMP
PAL11dB
NT 5dB
90° P.S
PB APC DET
REC AFC DET
PICTURE CONTROL
HALF H. KILLER
BGP GEN
NL EMPH
WHP NOI CAN
B.G.
ACC DET
4.43M BPF
375NS
PAL
4PHASE SHIFTER
RF SW
ACC. D AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RDLOCK PROTECT
REC APC DET
XO
VXO
X2
1MHZ LPF
KIL
CLAMP
VCA
ANC VOL
XO IN
XO OUT
X500
4.433619MHz
TR506
2SC1740S
TR515
2SC1740S
TR421
UN421D
TR509
2SC1740S
TR508
DTA114ES
TR507
2SC1740S
JS408
IC401
LC8992
(CCD)
TR510, TR511
2SC1740S
TR513
DTA114ES
TR512
TR423
DTA114ES
TR470
2SA933S
TR514
DTC144ES
EXCEPT EA, EK, ES
EA, EK, ES ONLY
P400
RESET 13
IMS.STB 12
IMS.CLK 11
IMS.SO 10
GND 9
SYS.CLK 8
SYS.SI 7
C.SYNC 6
S.READY 5
RESET 4
SYS.SO 3
IDL5V 2
1
TO OPERATION (A) OR (G)-A PCB WP2
PICT
TRICK
MESEC
TUNE
ANC.VOL
VP
V.SYNC
RESET
SYS.CLK
SYS.SI
S.READY
RESET
SYS.SO
TO MAIN (A) PCB 2/3
TO MAIN (A) PCB 3/3
TO MAIN (A) PCB 2/3

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED: SP)
(PLAYING BACK PAL RECODED TAPE)

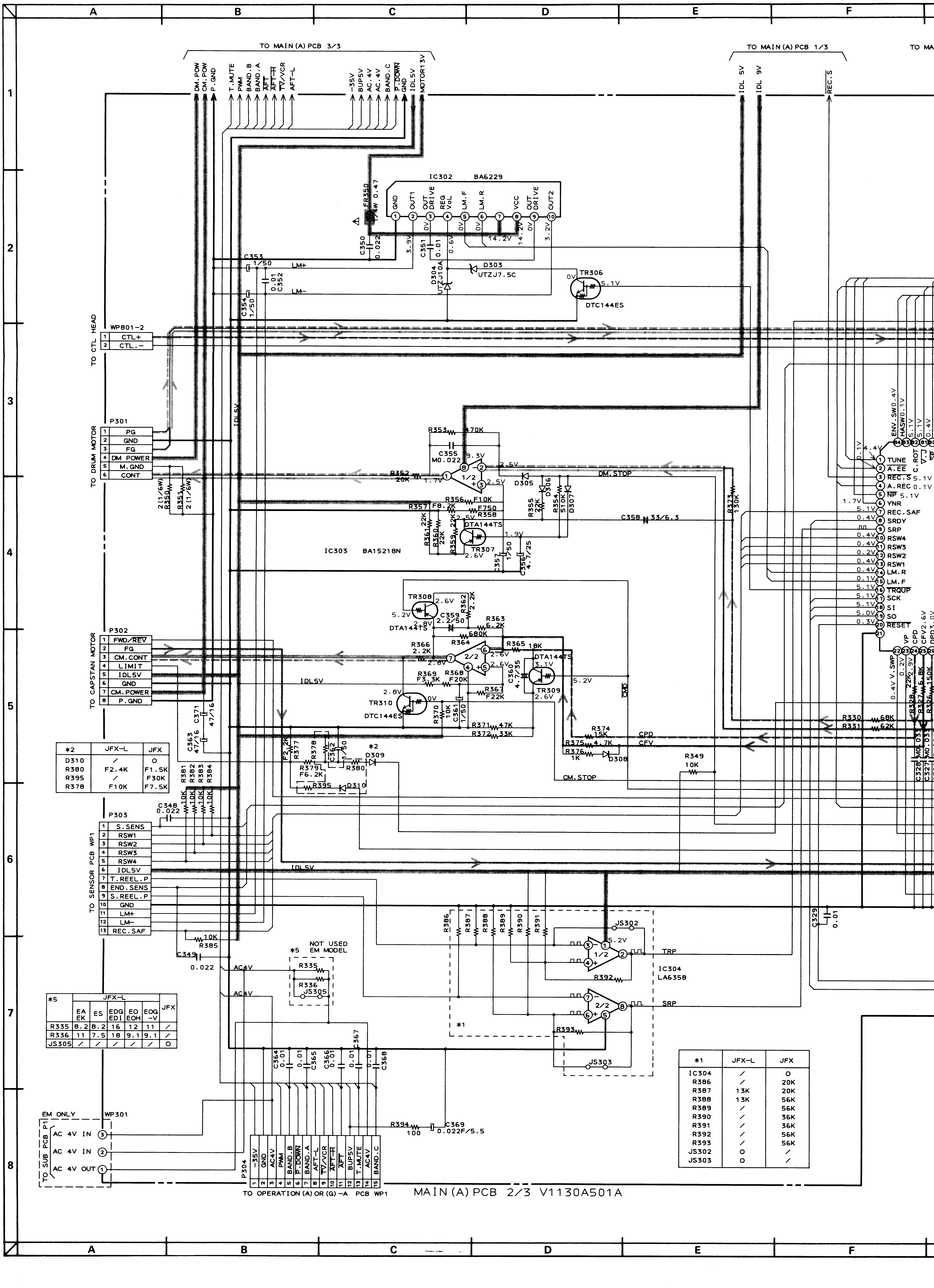
B (POWER SUPPLY) LINE
PB Y SIGNAL LINE
REC Y SIGNAL LINE
PB CHROMA SIGNAL LINE
REC CHROMA SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH (K)
ALL DIODES ARE 1SS131T

TRANSISTORS 2SA933S AND 2SC1740 CAN BE
SUBSTITUTED FOR 2SA1317 AND 2SC3330 RESPECTIVELY.

JFX/JFX-L
MAIN (A) 1/3
SCHEMATIC DIAGRAM

No. 21-6 V115206M
A0

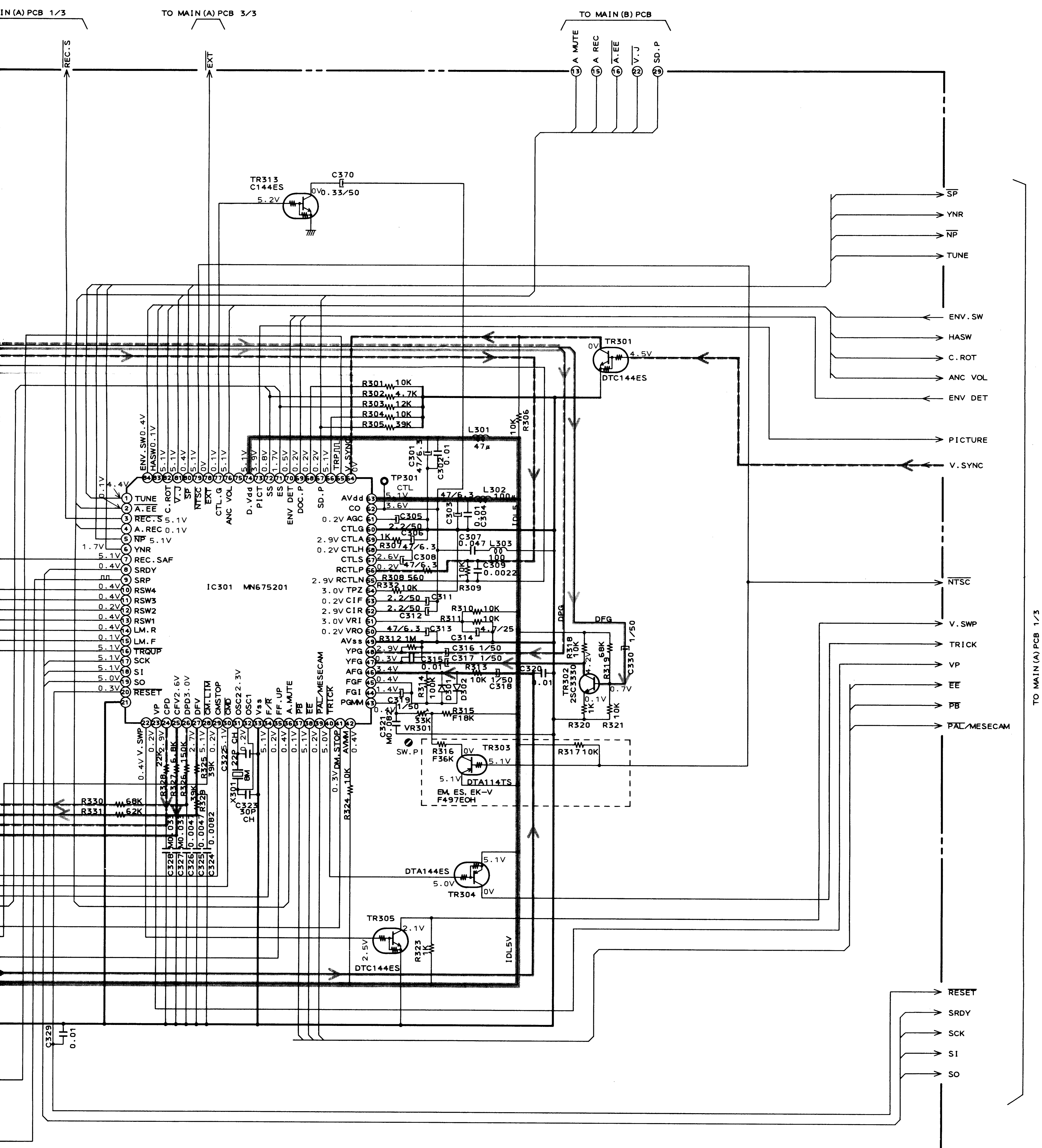

A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO MAIN (A) PCB 3/3
DM.POW
CM.POW
P.GND
T.MUTE
PWM
BAND.B
BAND.A
AFT
AFT-H
TV/VCR
AFT-L
-35V
BUP5V
AC.4V
AC.4V
BAND.C
P.DOWN
GND
IDL5V
MOTOR13V
TO MAIN (A) PCB 1/3
IDL 5V
IDL 9V
REC.S
IC302 BA6229
FR350 1/4W 0.47
GND
OUT1
OUT DRIVE
REG VoL
LM.F
LM.R
VCC
OUT DRIVE
OUT2
C350 0.022
C351 0.01
C353 1/50
C352 0.01
C354 1/50
LM+
LM-
D303 UTZJ7.5C
D304 UTZJ10A
TR306 DTC144ES
TO CTL HEAD
WP801-2
CTL+
CTL.-
TO DRUM MOTOR
P301
PG
GND
FG
DM POWER
M.GND
CONT
R350 2(1/6W)
R351 2(1/6W)
IDL5V
R353 470K
C355 M0.022
R352 20K
D305
D306
D307
DM.STOP
R356 F10K
R357 F8.2K
F750 R358
R355 82K
R354 510K
C358 33/6.3
R373 130K
TR307 DTA144TS
R361 22K
R360 22K
R359 22K
C357 1/50
C356 4.7/25
IC303 BA15218N
TR308 DTA144TS
R362 2.2K
C359 2.2/50
R363 6.2K
R364 680K
R366 2.2K
R365 18K
DTA144TS TR309
C360 4.7/35
R369 F3.3K
R368 F20K
R367 F22K
TR310 DTC144ES
R370 10K
C361 1/50
R371 47K
R372 33K
R374 15K
R375 4.7K
R376 1K
D308
CPD
CFV
R349 10K
CM.STOP
TO CAPSTAN MOTOR
P302
FWD/REV
FG
CM.CONT
LIMIT
IDL5V
GND
CM.POWER
P.GND
C371 47/16
C363 47/16
R377 F2.2K
R378
C362 1/50
R379 F6.2K
R380
D309
R395
D310
*2
R381 10K
R382 10K
R383 10K
R384 10K
C348 0.022
TO SENSOR PCB WP1
P303
S.SENS
RSW1
RSW2
RSW3
RSW4
IDL5V
T.REEL.P
END.SENS
S.REEL.P
GND
LM+
LM-
REC.SAF
R385 10K
C349 0.022
AC4V
*5
NOT USED EM MODEL
R335
R336
JS305
R386
R387
R388
R389
R390
R391
JS302
TRP
IC304 LA6358
R392
SRP
R393
JS303
*1
C364 0.01
C365 0.01
C366 0.01
C367 0.01
C368
R394 100
C369 0.022F/5.5
EM ONLY
WP301
TO SUB PCB P1
AC 4V IN
AC 4V IN
AC 4V OUT
P304
TO OPERATION (A) OR (G) -A PCB WP1
TUNE
A.EE
REC.S
A.REC
NP
YNR
REC.SAF
SRDY
SRP
RSW4
RSW3
RSW2
RSW1
LM.R
LM.F
TRQUP
SCK
SI
SO
RESET
R330 68K
R331 62K
C329 0.01

MAIN (A) PCB 2/3 V1130A501A

*2	JFX-L	JFX
D310	/	O
R380	F2.4K	F1.5K
R395	/	F30K
R378	F10K	F7.5K

*5	JFX-L					JFX
	EA EK	ES	EDG EDI	EO EOH	EOG -V	
R335	8.2	8.2	16	12	11	/
R336	11	7.5	18	9.1	9.1	/
JS305	/	/	/	/	/	O

*1	JFX-L	JFX
IC304	/	O
R386	/	20K
R387	13K	20K
R388	13K	56K
R389	/	56K
R390	/	36K
R391	/	36K
R392	/	56K
R393	/	56K
JS302	O	/
JS303	O	/


TO MAIN (A) PCB 1/3
TO MAIN (A) PCB 3/3
TO MAIN (B) PCB
REC.S
EXT
A MUTE
A REC
A.EE
V.J
SD.P
TR313
C144ES
C370
0.33/50
TR301
DTC144ES
4.5V
SP
YNR
NP
TUNE
ENV.SW
HASW
C.ROT
ANC VOL
ENV DET
PICTURE
V.SYNC
NTSC
V.SWP
TRICK
VP
EE
PB
PAL/MESECAM
RESET
SRDY
SCK
SI
SO
TO MAIN (A) PCB 1/3
IC301 MN675201
R301 10K
R302 4.7K
R303 12K
R304 10K
R305 39K
R306 10K
L301 47µ
L302 100µ
L303
TP301 CTL
TR302 2SC3330
R318 10K
R319 68K
C330 1/50
R320 1K
R321 10K
R317 10K
TR303 DTA114TS
R316 F36K
EM, ES, EK-V F497EOH
SW.P
VR301
R315 F18K
TR304 DTA144ES
TR305 DTC144ES
R323 1K
IDL5V
R324 10K
R330 68K
R331 62K
X301 8M
C323 30P CH
C329 0.01

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W
ALL CAPACITORS IN µF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN µF/WV
ALL DIODES ARE 1SS131T

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED: SP)

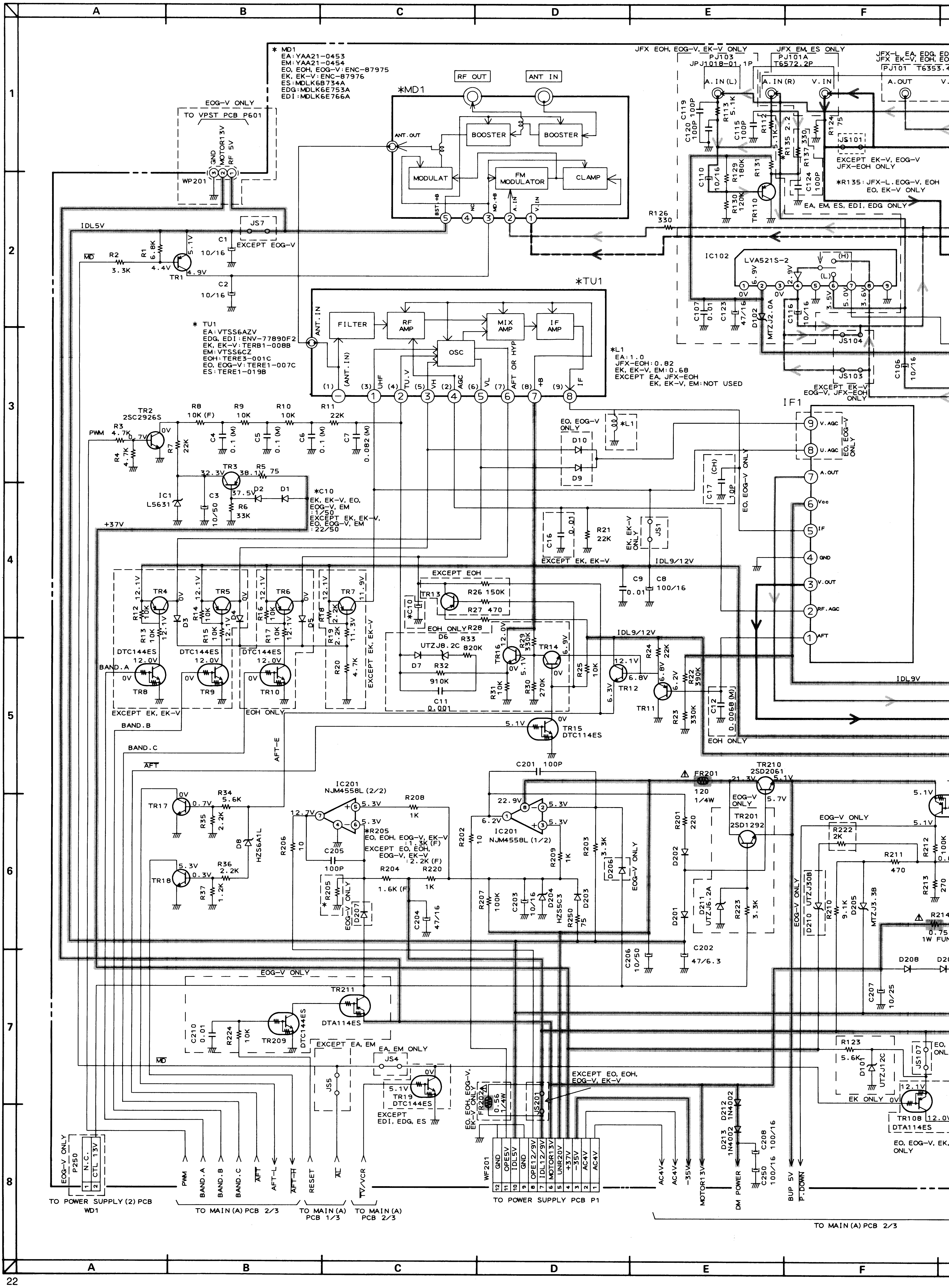
B (POWER SUPPLY) LINE
CAPSTAN MOTOR SPEED CONTROL LINE
CAPSTAN MOTOR PHASE CONTROL LINE
DRUM MOTOR SPEED CONTROL LINE
DRUM MOTOR PHASE CONTROL LINE

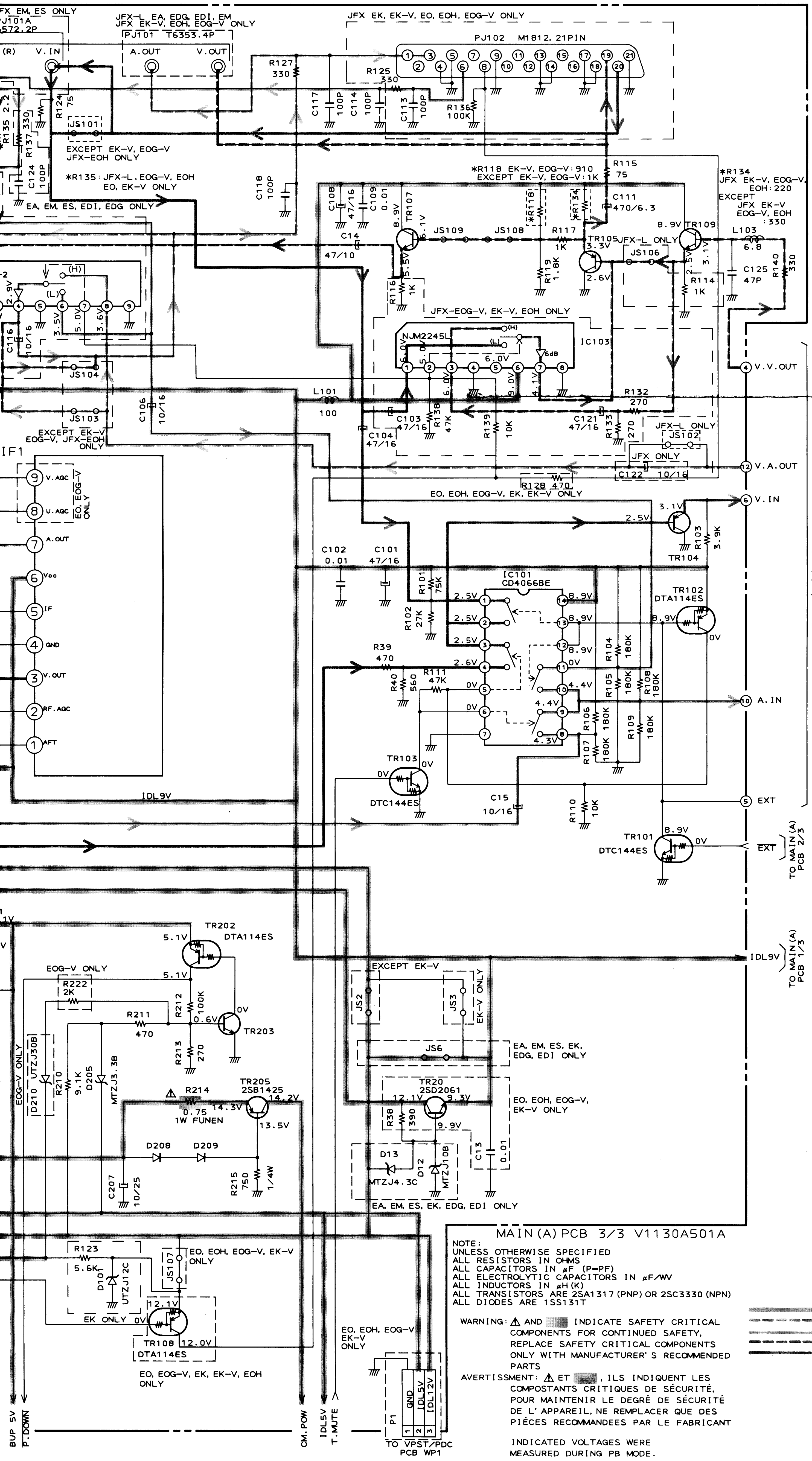
WARNING: ⚠ AND ■ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ■, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

JFX
0
20K
20K
56K
56K
36K
36K
56K
56K
/
/

JFX/JFX-L
MAIN (A) 2/3
SCHEMATIC DIAGRAM
No. 21-7 V115207M
A1


* MD1
EA:YAA21-0453
EM:YAA21-0454
EO, EOH, EOG-V:ENC-87975
EK, EK-V:ENC-87976
ES:MDLK6B734A
EDG:MDLK6E753A
EDI:MDLK6E766A
*MD1
RF OUT
ANT IN
BOOSTER
MODULAT
FM MODULATOR
CLAMP
ANT.OUT
EOG-V ONLY
TO VPST PCB P601
WP201
IDL5V
JS7
EXCEPT EOG-V
TR1
* TU1
EA:VTSS6AZV
EDG, EDI:ENV-77890F2
EK, EK-V:TERB1-008B
EM:VTSS6CZ
EOH:TERE3-001C
EO, EOG-V:TERE1-007C
ES:TERE1-019B
*TU1
FILTER
RF AMP
MIX AMP
IF AMP
OSC
*L1
EA:1.0
JFX-EOH:0.82
EK, EK-V, EM:0.68
EXCEPT EA, JFX-EOH
EK, EK-V, EM:NOT USED
TR2
2SC2926S
PWM
IC1
L5631
+37V
*C10
EK, EK-V, EO, EOG-V, EM :1/50
EXCEPT EK, EK-V, EO, EOG-V, EM :22/50
EXCEPT EOH
EOH ONLY
EXCEPT EK, EK-V
IDL9/12V
DTC144ES
BAND.A
BAND.B
BAND.C
AFT
TR15
DTC114ES
EOH ONLY
IC201
NJM4558L (2/2)
NJM4558L (1/2)
*R205
EO, EOH, EOG-V, EK-V :1.3K (F)
EXCEPT EO, EOH, EOG-V, EK-V :2.2K (F)
EOG-V ONLY
TR211
DTA114ES
TR209
EXCEPT EA, EM
EA, EM ONLY
JS4
JS5
TR19
DTC144ES
EXCEPT EDI, EDG, ES
EXCEPT EO, EOH, EOG-V, EK-V
FR201
TR210
2SD2061
TR201
2SD1292
JFX EOH, EOG-V, EK-V ONLY
PJ103
JPJ1018-01.1P
JFX EM, ES ONLY
PJ101A
T6572.2P
JFX-L EA, EDG, ED
JFX EK-V, EOH, EO
PJ101 T6353.4
A.IN(L)
A.IN(R)
V.IN
A.OUT
EXCEPT EK-V, EOG-V
JFX-EOH ONLY
*R135:JFX-L, EOG-V, EOH EO, EK-V ONLY
EA, EM, ES, EDI, EDG ONLY
IC102
LVA521S-2
JS101
JS104
JS103
EXCEPT EK-V EOG-V, JFX-EOH ONLY
IF1
V.AGC
U.AGC
A.OUT
Vcc
IF
GND
V.OUT
RF.AGC
AFT
EO, EOG-V ONLY
IDL9V
EK ONLY
TR108
DTA114ES
EO, EOG-V, EK, ONLY
EOG-V ONLY
P250
N.C.
CTL 13V
TO POWER SUPPLY (2) PCB WD1
PWM
BAND.A
BAND.B
BAND.C
AFT
AFT-L
AFT-H
RESET
AL
TV/VCR
TO MAIN (A) PCB 2/3
TO MAIN (A) PCB 1/3
TO MAIN (A) PCB 2/3
WF201
GND
OPE5V
IDL5V
GND
OPE12/9V
IDL12/9V
MOTOR13V
UNR20V
+37V
-35V
AC4V
AC4V
TO POWER SUPPLY PCB P1
AC4V
AC4V
-35V
MOTOR13V
DM POWER
C250 100/16
BUP 5V
P.DOWN
TO MAIN (A) PCB 2/3


JFX-L EA, EDG, EDI, EM
JFX EK-V, EOH, EOG-V ONLY
PJ101 T6353.4P
A.OUT
V.OUT
V.IN
JFX EK, EK-V, EO, EOH, EOG-V ONLY
PJ102 M1812, 21PIN
R127 330
R125 330
C117 100P
C114 100P
C113 100P
R136 100K
R124 75
JS101
EXCEPT EK-V, EOG-V
JFX-EOH ONLY
*R135: JFX-L, EOG-V, EOH
EO, EK-V ONLY
C124 100P
R137 330
C118 100P
EA, EM, ES, EDI, EDG ONLY
*R118 EK-V, EOG-V: 910
EXCEPT EK-V, EOG-V: 1K
R115 75
*R134
JFX EK-V, EOG-V, EOH: 220
EXCEPT
JFX EK-V
EOG-V, EOH
: 330
C108 47/16
C109 0.01
TR107
C111 470/6.3
TR109
L103 6.8
C14 47/10
JS109
JS108
R117 1K
TR105
JFX-L ONLY
JS106
R116 1K
R119 1.8K
R114 1K
C125 47P
R140 330
JFX-EOG-V, EK-V, EOH ONLY
NJM2245L
IC103
6dB
C116 10/16
JS104
JS103
EXCEPT EK-V
EOG-V, JFX-EOH ONLY
C106 10/16
L101 100
R132 270
C103 47/16
R138 47K
R139 10K
C121 47/16
R133 270
C104 47/16
JFX-L ONLY
JS102
JFX ONLY
C122 10/16
R128 470
EO, EOH, EOG-V, EK, EK-V ONLY
V.V.OUT
V.A.OUT
V.IN
IF1
V.AGC
U.AGC
EO, EOG-V ONLY
A.OUT
Vcc
IF
GND
V.OUT
RF.AGC
AFT
TR104
R103 3.9K
C102 0.01
C101 47/16
R101 75K
R102 27K
IC101
CD4066BE
TR102
DTA114ES
R39 470
R40 560
R111 47K
R104 180K
R105 180K
R108 180K
R106 180K
R107 180K
R109 180K
A.IN
TO MAIN (B) PCB
TR103
DTC144ES
C15 10/16
R110 10K
EXT
TR101
DTC144ES
TO MAIN (A) PCB 2/3
IDL9V
TO MAIN (A) PCB 1/3
TR202
DTA114ES
EOG-V ONLY
R222 2K
R211 470
R212 100K
TR203
R213 270
EXCEPT EK-V
JS2
JS3
EK-V ONLY
JS6
EA, EM, ES, EK,
EDG, EDI ONLY
D210 UTZJ30B
R210 9.1K
D205 MTZJ3.3B
R214 0.75
1W FUNEN
TR205
2SB1425
TR20
2SD2061
EO, EOH, EOG-V,
EK-V ONLY
R38 390
D208
D209
C207 10/25
R215 750 1/4W
D13
MTZJ4.3C
D12
MTZJ10B
C13 0.01
EA, EM, ES, EK, EDG, EDI ONLY
R123 5.6K
D10 UTZJ12C
JS107
EO, EOH, EOG-V, EK-V ONLY
EK ONLY
TR108
DTA114ES
EO, EOG-V, EK, EK-V, EOH ONLY
EO, EOH, EOG-V
EK-V
ONLY
P1
GND
IDL5V
IDL12V
TO VPST/PDC
PCB WP1
BUP 5V
P.DOWN
CM.POW
IDL5V
T.MUTE
TO MAIN (A) PCB 2/3

MAIN (A) PCB 3/3 V1130A501A

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV
ALL INDUCTORS IN μH (K)
ALL TRANSISTORS ARE 2SA1317 (PNP) OR 2SC3330 (NPN)
ALL DIODES ARE 1SS131T

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

INDICATED VOLTAGES WERE MEASURED DURING PB MODE.
(TAPE SPEED: SP)

▬ B (POWER SUPPLY) LINE
╌ AUDIO OUT (E-E, PB) LINE
▬ AUDIO IN (E-E, REC) LINE
╌ VIDEO OUT (E-E, PB) LINE
▬ VIDEO IN (E-E, REC) LINE

JFX/JFX-L
MAIN (A) 3/3
SCHEMATIC DIAGRAM
No. 21-8 V115208M
A1

PRINCIPAL PARTS LOCATION

ICs

IC101	D5
IC102	D,E5
IC103	D5
IC201	F4,5
IC301	E1,2
IC302	F1,2
IC303	E,F3
IC304	F2
IC400	C3
IC401	C,D4
IC402	C,D1
IC403	C5

WF & WPs

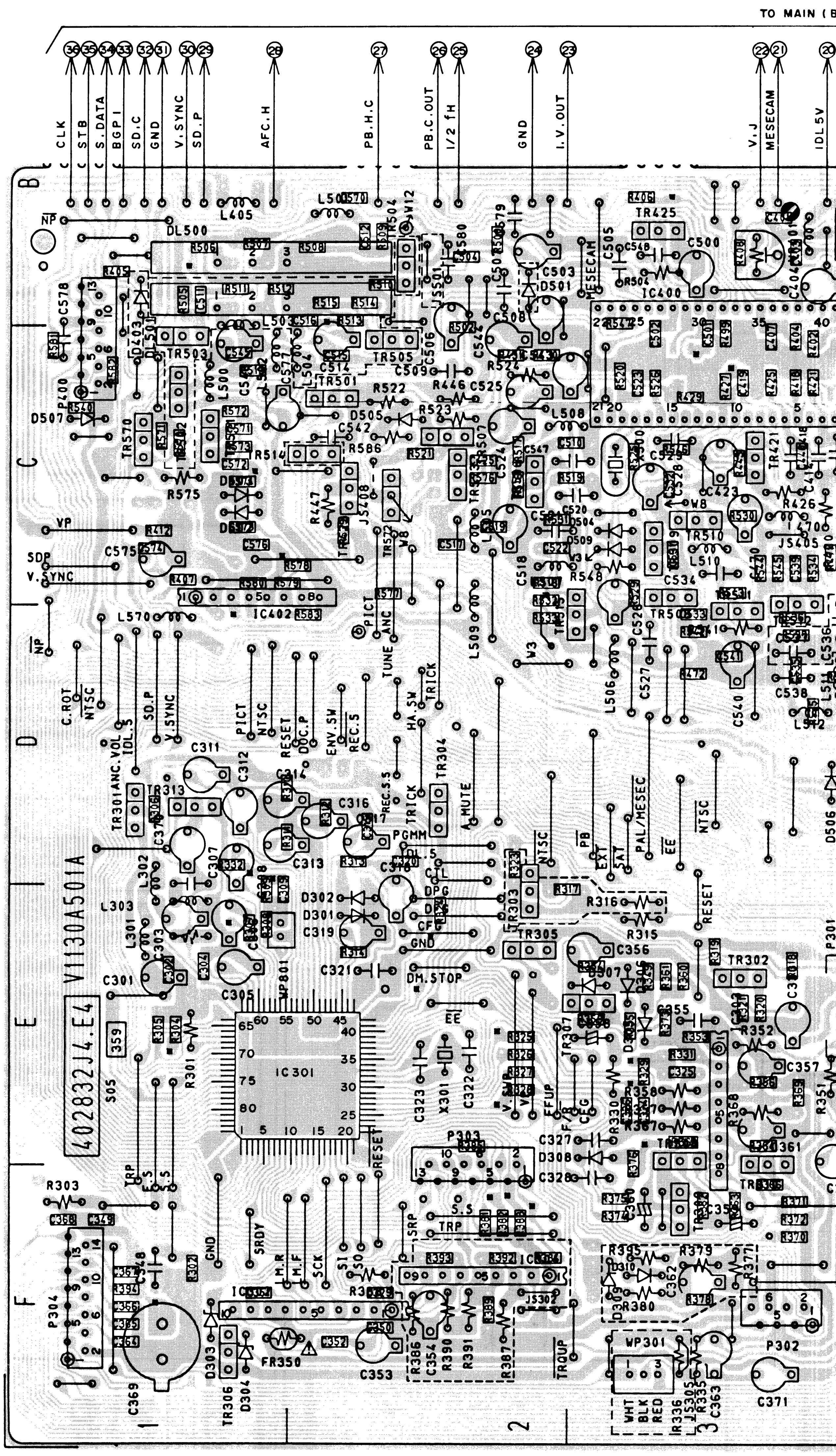
WF201	F4,5
WP301	F3
WP801	E1,2

CONNECTORs

P1	E,F5
P250	F4
P301	E3
P302	F4
P303	E2
P304	F1
P400	B,C1
P401	D5

TRANSISTORS

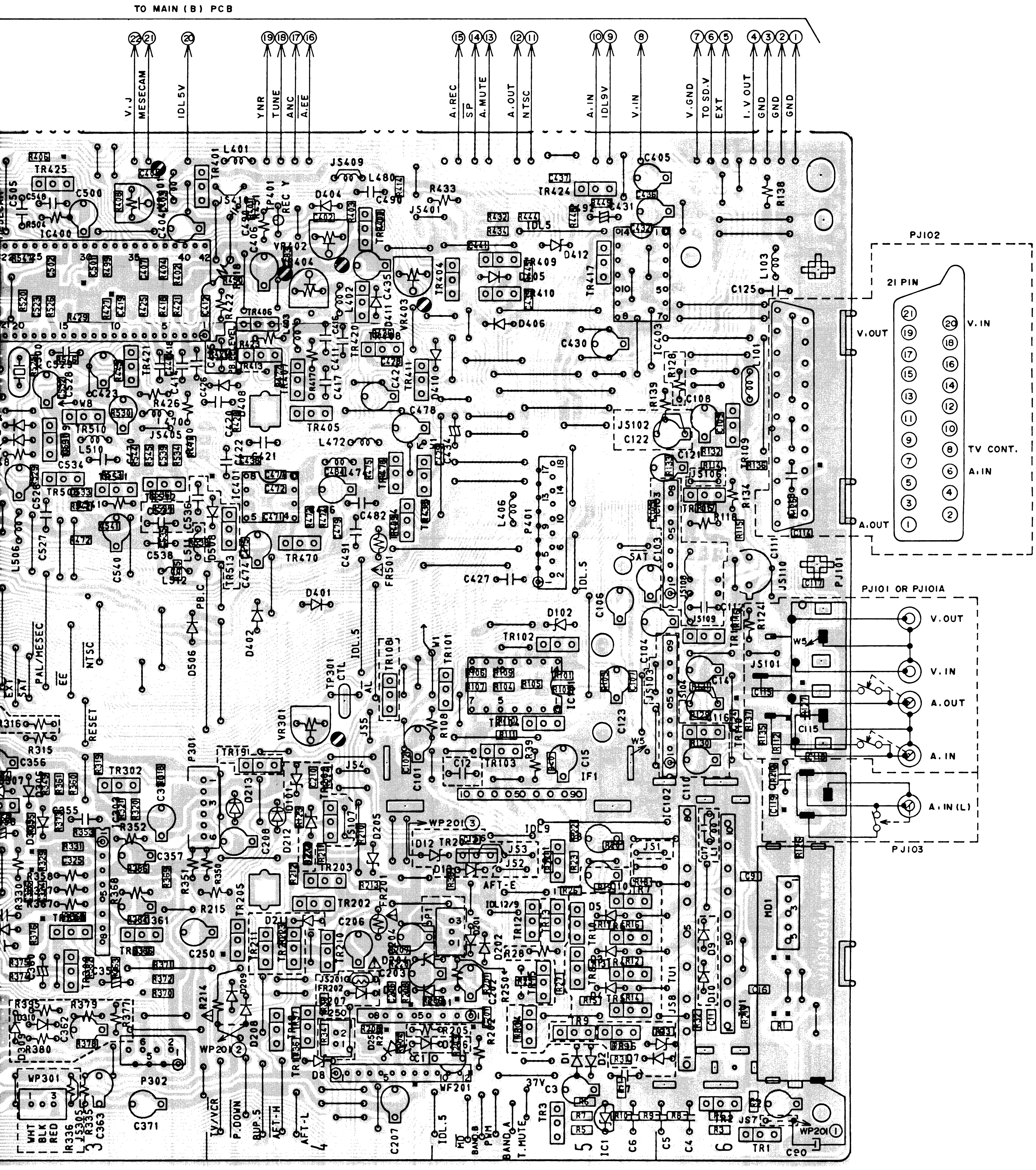
TR1	F6
TR2	F6
TR3	F5
TR4	F5
TR5	F5
TR6	F5
TR7	E5
TR8	F5
TR9	F5
TR10	E,F5
TR11	E5
TR12	E5
TR13	E,F5
TR14	F5
TR15	F5
TR16	F5
TR17	F4
TR18	F4
TR19	E4
TR20	E5
TR101	D5
TR102	D5
TR103	E5
TR104	E5
TR105	D6
TR107	D6
TR108	D4
TR109	C6
TR110	E6
TR201	F4
TR202	E4
TR203	E4
TR205	E,F4
TR209	F4
TR210	E,F4
TR211	F4
TR301	D1
TR302	E3
TR303	D,E2
TR304	D2
TR305	E2
TR306	F1
TR307	E3
TR308	E,F4
TR309	F3
TR310	E,F3
TR313	D1
TR401	B3
TR402	B4
TR404	C5
TR406	C4
TR407	C4
TR408	C4
TR409	C5
TR410	C5
TR411	C4
TR413	C4
TR414	D4
TR415	C4
TR417	C5
TR419	C2
TR420	C4
TR421	C3
TR423	C2
TR424	B5
TR425	B3
TR470	D4
TR471	C4
TR501	C2
TR502	C1
TR503	C1
TR504	C1
TR505	C2
TR506	C2
TR507	C2
TR508	C,D3
TR509	C3
TR510	C3
TR511	D3
TR512	C,D3
TR513	D4
TR514	C2
TR515	C2
TR570	C1
TR571	C1
TR572	C2
TR573	C2


TO MAIN (B
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
CLK
STB
S.DATA
BGPI
SD.C
GND
V.SYNC
SD.P
AFC.H
PB.H.C
PB.C.OUT
1/2 fH
GND
I.V.OUT
V.J
MESECAM
IDL5V
B
C
D
E
F
1
2
3
V1130A501A
402832J4.E4
IC301
IC400
IC402
DL500
P400
P304
P303
P302
WP301
WP801
FR350
X301
NTSC
PAL/MESEC
RESET
DM.STOP
GND
WHT
BLK
RED

MAIN(A) P

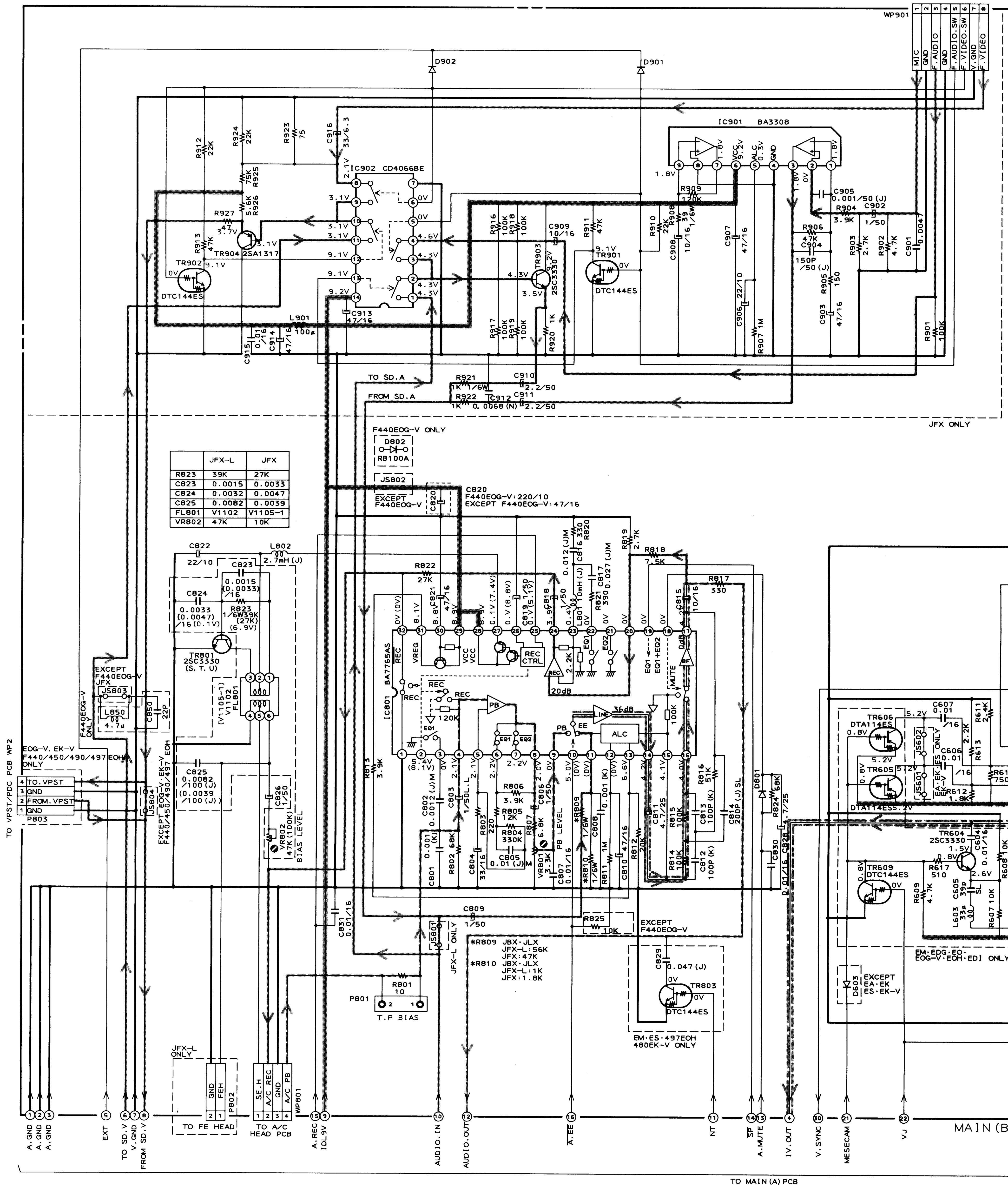
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


TO MAIN (B) PCB
㉒ V.J
㉑ MESECAM
⑳ IDL5V
⑲ YNR
⑱ TUNE
⑰ ANC
⑯ A.EE
⑮ A.REC
⑭ SP
⑬ A.MUTE
⑫ A.OUT
⑪ NTSC
⑩ A.IN
⑨ IDL9V
⑧ V.IN
⑦ V.GND
⑥ TO SD.V
⑤ EXT
④ I.V OUT
③ GND
② GND
① GND
PJ102
21 PIN
V.OUT
V.IN
TV CONT.
A.IN
A.OUT
PJ101 OR PJ101A
V.OUT
V.IN
A.OUT
A.IN
A.IN (L)
PJ103

MAIN (A) PCB V1130A501A (J4)

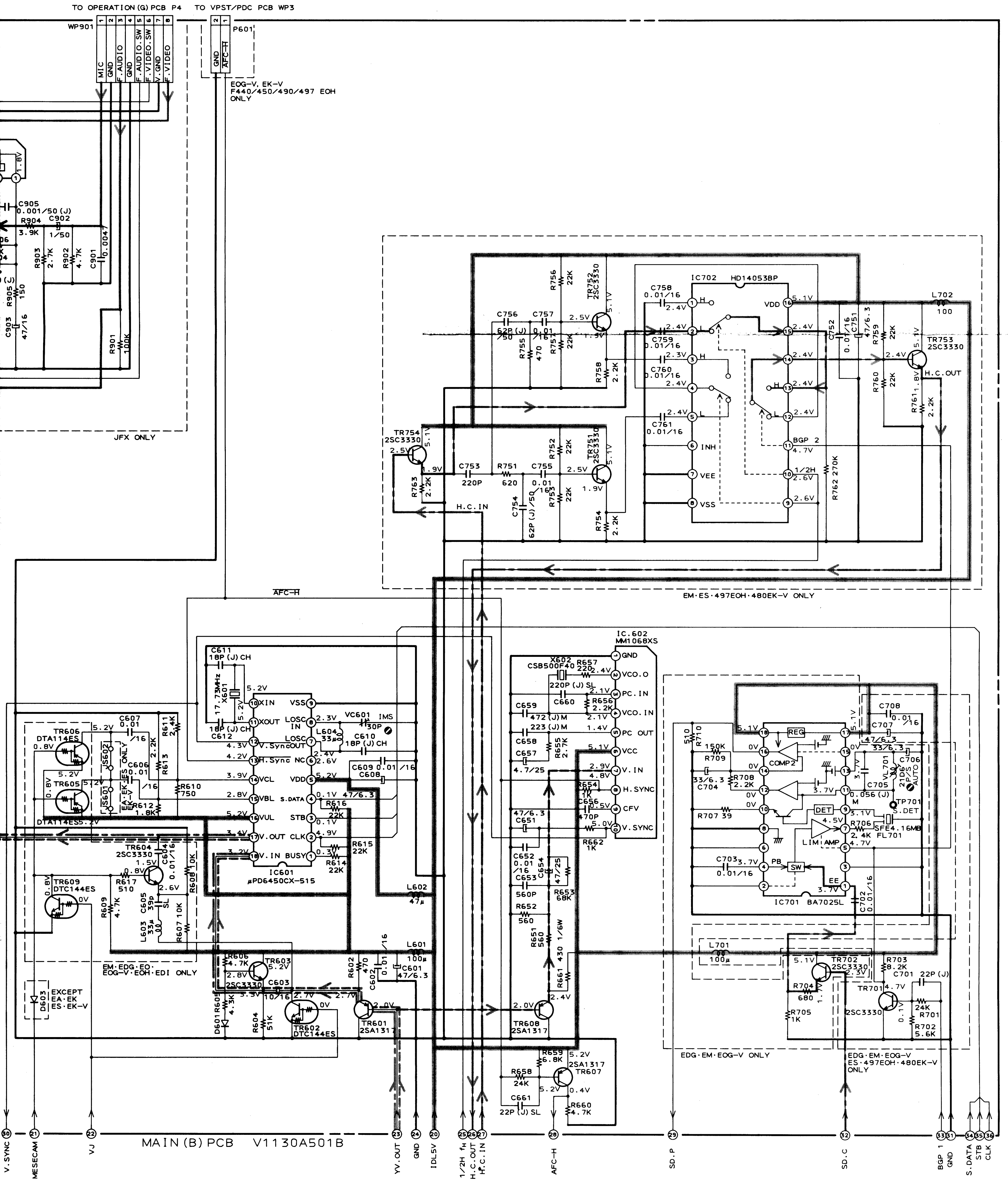
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.


TO OPERATION (G) PCB P4
WP901
MIC
GND
F.AUDIO
GND
F.AUDIO.SW
F.VIDEO.SW
V.GND
F.VIDEO
D902
D901
IC901 BA3308
IC902 CD4066BE
R912 22K
R924 22K
R923 75
C916 33/6.3
R925 75K
R926 5.6K
R927 47
R913 47K
TR904 2SA1317
TR902
DTC144ES
TR903 2SC3330
TR901
DTC144ES
C909 10/16
R911 47K
R916 100K
R918 100K
R917 100K
R919 100K
R920 1K
R910 22K
R908 39
R909 120K
C908 10/16
C907 47/16
C906 22/10
R907 1M
C905 0.001/50 (J)
R904 3.9K
C902 1/50
R906 47K
C904 150P /50 (J)
R903 2.7K
R902 4.7K
C901 0.0047
R905 150
C903 47/16
R901 100K
C913 47/16
L901 100μ
C915 0.01 /16
C914 47/16
TO SD.A
FROM SD.A
R921 1K 1/6W
R922 1K
C910 2.2/50
C911 2.2/50
C912 0.0068 (N)
JFX ONLY
F440EOG-V ONLY
D802
RB100A
JS802
EXCEPT F440EOG-V
C820
F440EOG-V:220/10
EXCEPT F440EOG-V:47/16
C822 22/10
L802 2.7mH (J)
C823 0.0015 (0.0033) /16
C824 0.0033 (0.0047) /16 (0.1V)
R823 1/6W39K (27K) (6.9V)
TR801 2SC3330 (S, T, U)
(V1105-1) V1102 FL801
EXCEPT F440EOG-V JFX
JS803
L850 4.7μ
C850 22P
F440EOG-V ONLY
EOG-V, EK-V F440/450/490/497 EOH ONLY
TO.VPST
GND
FROM.VPST
GND
P803
TO VPST/PDC PCB WP2
JS804
EXCEPT EOG-V·EK-V F440/450/490/497 EOH
C825 0.0082 /100 (J) (0.0039 /100 (J))
C826 1/50
VR802 47K (100K) BIAS LEVEL
IC801 BA7765AS
REC
VREG
VCC
REC CTRL
EQ1
EQ2
PB
EE
LINE
36dB
ALC
MUTE
BF
20dB
120K
R822 27K
C821 47/16
C818 1/50
C819 1/50
C816 330
R820
L801 10mH (J)
C817 0.027 (J)M
R821 390
R819 2.7K
R818 7.5K
R817 330
C815 10/16
R813 3.9K
C802 0.0012 (J)M
C803 1/50
C801 0.001 (K)
R802 68K
R803 220
C804 33/16
R806 3.9K
R805 12K
R804 330K
C805 0.01 (J)M
C806 1/50
R807 6.8K
VR801 3.3K
C807 0.01/16
PB LEVEL
R809
R810 1/6W
C808 0.001 (K)
R811 1M
C810 47/16
R812 20K
C811 4.7/25
R815 100K
R814 100K
C813 100P (K)
C812 100P (K)
R816 51K
C814 200P (J) SL
D801
R824 6.8K
C828 4.7/25
C830 0.01/16
C831 0.01/16
C809 1/50
JS801
JFX-L ONLY
R825 10K
EXCEPT F440EOG-V
*R809 JBX·JLX JFX-L:56K JFX:47K
*R810 JBX·JLX JFX-L:1K JFX:1.8K
C829 0.047 (J)
TR803
DTC144ES
EM·ES·497EOH 480EK-V ONLY
R801 10
P801
T.P BIAS
JFX-L ONLY
GND
FEH
P802
TO FE HEAD
SE.H
A/C REC
GND
A/C PB
WP801
TO A/C HEAD PCB
A.GND
A.GND
A.GND
EXT
TO SD.V
V.GND
FROM SD.V
A.REC
IDL9V
AUDIO.IN
AUDIO.OUT
A.EE
NT
SP
A.MUTE
IV.OUT
V.SYNC
MESECAM
VJ
MAIN (B
TR606 DTA114ES
TR605 DTA114ES
C607 0.01
R611 2.4K
R613
JS602
JS601
C606 0.01
R612 1.8K
TR604 2SC3330
C604 0.01/16
R608 10K
TR609 DTC144ES
R617 510
R609 4.7K
C605 39p
L603 33μ
R607 10K
EM·EDG·EO· EOG-V·EOH·EDI ONLY
D603
EXCEPT EA·EK ES·EK-V

	JFX-L	JFX
R823	39K	27K
C823	0.0015	0.0033
C824	0.0032	0.0047
C825	0.0082	0.0039
FL801	V1102	V1105-1
VR802	47K	10K

TO MAIN (A) PCB

INDICATED VOLTAGES WERE MEASURED DURING PB MODE
WITH PAL RECORDED TAPE.
( ) : REC MODE



TO OPERATION (G) PCB P4
TO VPST/PDC PCB WP3
WP901
MIC
GND
F.AUDIO
GND
F.AUDIO.SW
F.VIDEO.SW
V.GND
F.VIDEO
P601
GND
AFC-H
EOG-V, EK-V
F440/450/490/497 EOH
ONLY
JFX ONLY
C905 0.001/50 (J)
R904 3.9K
C902 1/50
R903 2.7K
R902 4.7K
C901 0.0047
R905 (J) 150
C903 47/16
R901 100K
IC702 HD14053BP
TR752 2SC3330
TR751 2SC3330
TR753 2SC3330
TR754 2SC3330
L702 100
H.C.OUT
H.C.IN
BGP 2
R762 270K
EM·ES·497EOH·480EK-V ONLY
AFC-H
IC.602 MM1068XS
X602 CSB500F40
IC601 μPD6450CX-515
X601 17.734MHz
VC601 IMS
TR606 DTA114ES
TR605 DTA114ES
TR604 2SC3330
TR609 DTC144ES
TR603 2SC3330
TR602 DTC144ES
TR601 2SA1317
TR608 2SA1317
TR607 2SA1317
L602 47μ
L601 100μ
EM·EDG·EQ·
EOG-V·EOH·EDI ONLY
EXCEPT EA·EK ES·EK-V
D603
D601
IC701 BA7025L
REG
COMP2
DET
LIM AMP
SW
PB
EE
FL701 SFE4.16MB
VL701 21D6 P/S AUTO
TP701 S.DET
L701 100μ
TR702 2SC3330
TR701 2SC3330
EDG·EM·EOG-V ONLY
EDG·EM·EOG-V
ES·497EOH·480EK-V
ONLY
MAIN (B) PCB V1130A501B
V.SYNC
MESECAM
VJ
YV.OUT
GND
IDL5V
1/2H fH
H.C.OUT
H.C.IN
AFC-H
SD.P
SD.C
BGP 1
GND
S.DATA
STB
CLK

S WERE MEASURED DURING PB MODE
TAPE.

B (POWER SUPPLY) LINE
PB AUDIO SIGNAL LINE
REC AUDIO SIGNAL LINE
PB Y SIGNAL LINE
PB CHROMA SIGNAL LINE
VIDEO IN (REC, E-E) SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL DIODE ARE 1SS131T

JFX/JFX-L
MAIN (B)
SCHEMATIC DIAGRAM

No.21-9 V115209M
A1

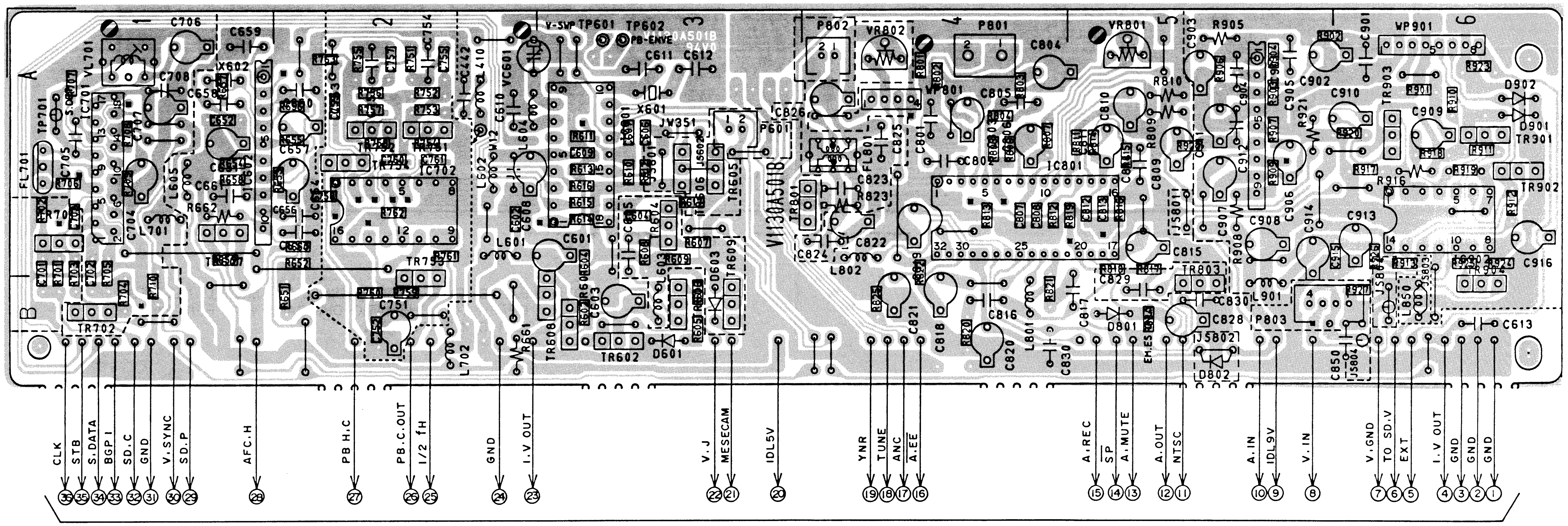
PRINCIPAL PARTS LOCATION

ICs	
IC601	A3
IC602	A1
IC701	A1
IC702	A2
IC801	A4
IC901	A5
IC902	A6

WPs	
WP801	A4
WP901	A6

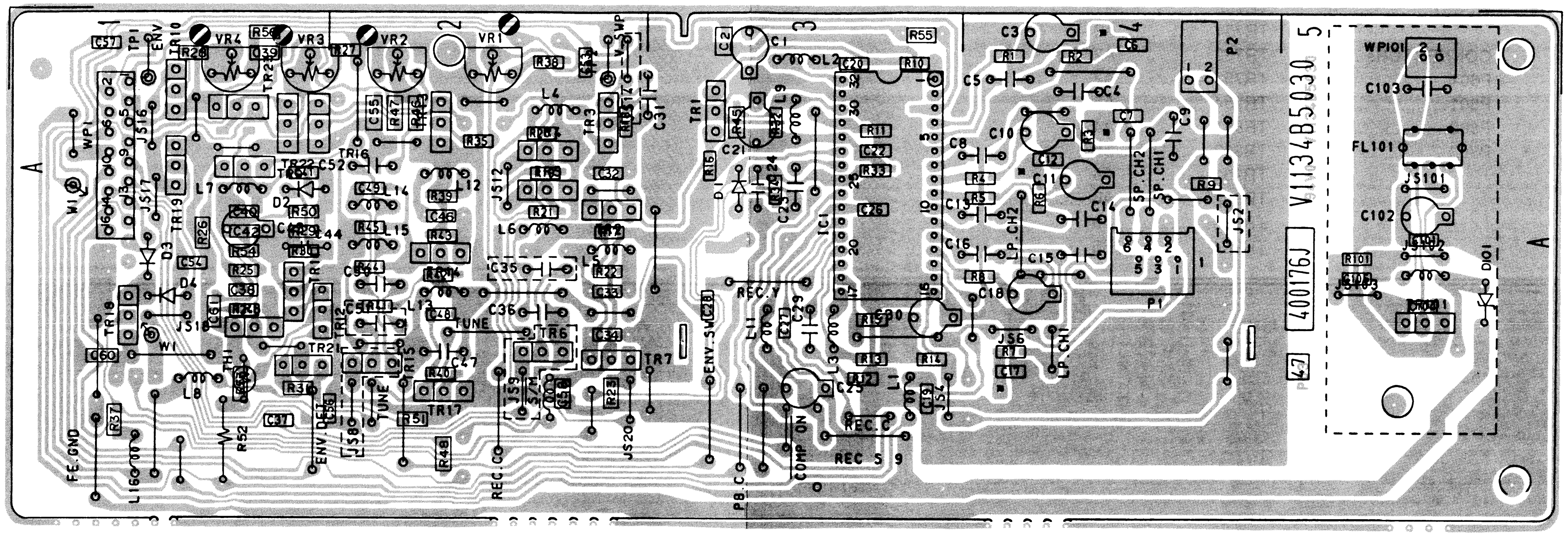
CONNECTORs	
P601	A3
P801	A4
P802	A4
P803	A5,6

TRANSISTORs	
TR601	A3
TR602	A3
TR603	A3
TR604	A3
TR605	A3
TR606	A3
TR607	A1
TR608	A3
TR609	A3
TR701	A1
TR702	A1
TR751	A2
TR752	A2
TR753	A2
TR754	A2
TR801	A4
TR803	B5
TR901	A6
TR902	A6
TR903	A6
TR904	B6


A
B
1
2
3
4
5
6
VI130A501B
CLK ㊱
STB ㉟
S.DATA ㉞
BGP.I ㉝
SD.C ㉜
GND ㉛
V.SYNC ㉚
SD.P ㉙
AFC.H ㉘
PB H.C ㉗
PB.C.OUT ㉖
1/2 fH ㉕
GND ㉔
I.V OUT ㉓
V.J ㉒
MESECAM ㉑
IDL5V ⑳
YNR ⑲
TUNE ⑱
ANC ⑰
A.EE ⑯
A.REC ⑮
SP ⑭
A.MUTE ⑬
A.OUT ⑫
NTSC ⑪
A.IN ⑩
IDL9V ⑨
V.IN ⑧
V.GND ⑦
TO SD.V ⑥
EXT ⑤
I.V OUT ④
GND ③
GND ②
GND ①
TO MAIN (A) PCB

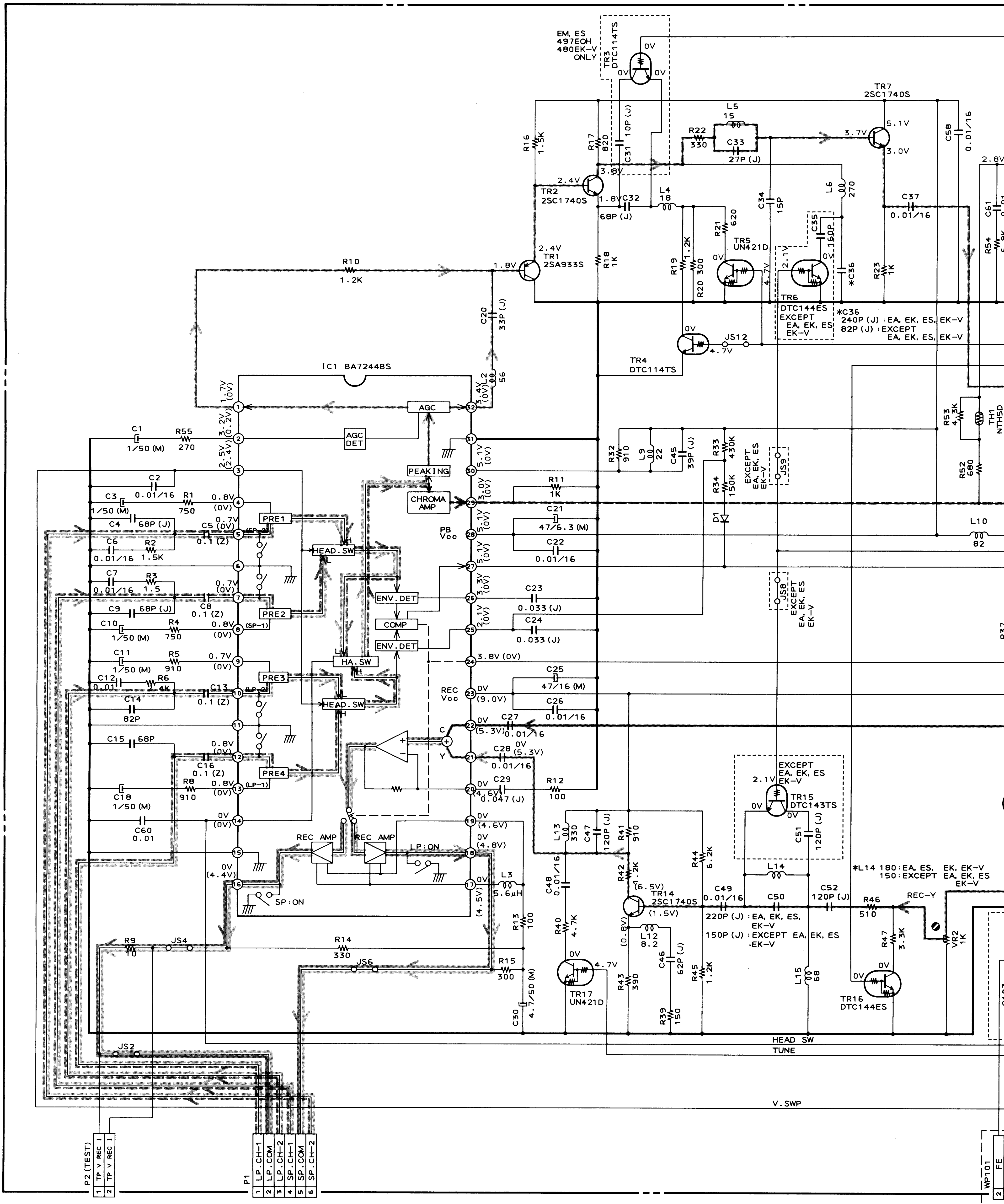
MAIN(B) PCB VI130A501B(J4)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.


VR4
VR3
VR2
VR1
WP1
TP1
ENV
TR10
TR24
TR22
TR16
TR19
TR18
TR1
TR2
TR3
TR6
TR7
TR12
TR17
IC1
D1
D2
D3
D4
W1
TH1
L1
L2
L3
L4
L6
L7
L8
L9
L11
L12
L13
L14
L15
L16
JS9
JS12
JS16
JS17
JS18
JS20
JS4
JS6
JS58
REC.Y
REC.C
REC 5 9
ENV.5V
ENV.DET
TUNE
COMP ON
PB.C
REC.C
FE.GND
SP.CH1
SP.CH2
LP.CH1
LP.CH2
P1
P2
WP101
C103
FL101
JS101
C102
D101
R101
V1134B5030 5
400176J
A

PRE AMP PCB V1134B5030(J2)

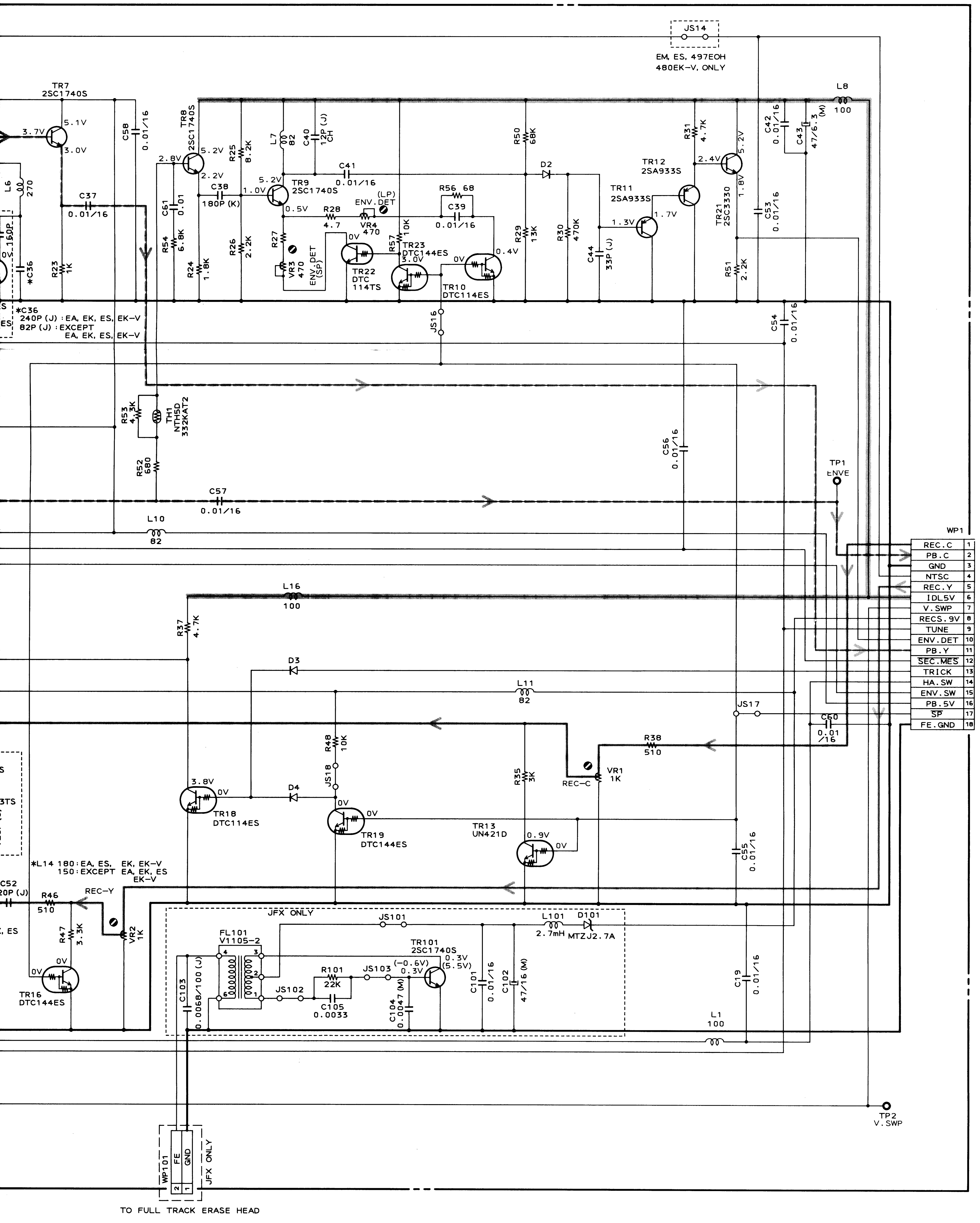
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.


EM, ES 497EOH 480EK-V ONLY
TR3 DTC114TS
TR7 2SC1740S
TR2 2SC1740S
TR1 2SA933S
TR5 UN421D
TR6 DTC144ES EXCEPT EA, EK, ES EK-V
*C36 240P (J) : EA, EK, ES, EK-V 82P (J) : EXCEPT EA, EK, ES, EK-V
TR4 DTC114TS
IC1 BA7244BS
AGC
AGC DET
PEAKING
CHROMA AMP
PRE1
PRE2
PRE3
PRE4
HEAD. SW
HA. SW
ENV. DET
COMP
REC AMP
LP : ON
SP : ON
PB Vcc
REC Vcc
TR15 DTC143TS
EXCEPT EA, EK, ES EK-V
*L14 180 : EA, ES, EK, EK-V 150 : EXCEPT EA, EK, ES EK-V
TR14 2SC1740S
TR17 UN421D
TR16 DTC144ES
220P (J) : EA, EK, ES, EK-V 150P (J) : EXCEPT EA, EK, ES -EK-V
REC-Y
VR2 1K
TH1 NTH5D
HEAD SW
TUNE
V. SWP
P2 (TEST)
TP V REC 1
P1
LP. CH-1
LP. COM
LP. CH-2
SP. CH-1
SP. COM
SP. CH-2
JS2
JS4
JS6
JS8
JS9
JS12
WP101
TO VIDEO HEAD BLOCK
TO FULL TRA

PRE AMP PCB V1134B5030

B (POWER SUPPLY) LINE
PB Y SIGNAL LINE
REC Y SIGNAL LINE
PB CHROMA SIGNAL LINE
REC CHROMA SIGNAL LINE

INDICATED VOLTAG
MEASURED DURING
( ) : REC MODE



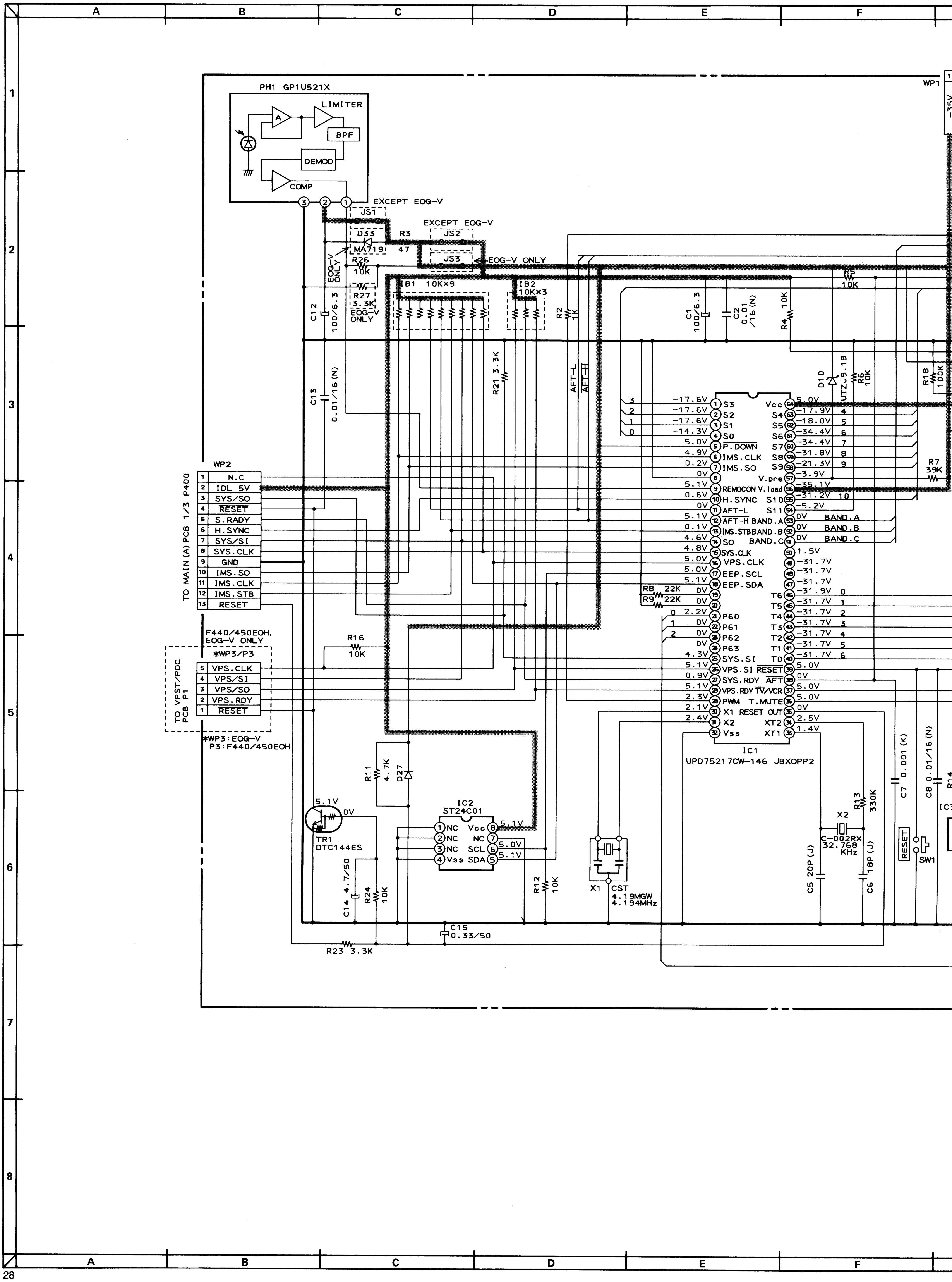
JS14
EM, ES, 497EOH
480EK-V, ONLY
TR7
2SC1740S
3.7V
5.1V
3.0V
L6 270
C37 0.01/16
C58 0.01/16
R23 1K
*C36
*C36
240P (J) : EA, EK, ES, EK-V
82P (J) : EXCEPT
EA, EK, ES, EK-V
TR8 2SC1740S
2.8V
5.2V
2.2V
C61 0.01
R54 6.8K
R24 1.8K
R25 8.2K
R26 2.2K
C38 180P (K)
1.0V
5.2V
TR9 2SC1740S
0.5V
L7 82
C40 12P (J) CH
C41 0.01/16
R27
VR3 470
ENV.DET (SP)
R28 4.7
VR4 470
(LP) ENV.DET
R56 68
C39 0.01/16
0V
TR22 DTC 114TS
R57 10K
TR23 DTC144ES
3.0V
TR10 DTC114ES
0V
0.4V
JS16
R50 68K
R29 13K
D2
R30 470K
C44 33P (J)
TR11 2SA933S
1.3V
1.7V
TR12 2SA933S
R31 4.7K
2.4V
TR21 2SC3330
5.2V
1.8V
C53 0.01/16
R51 2.2K
C42 0.01/16
C43 47/6.3 (M)
L8 100
C54 0.01/16
R53 4.3K
TH1 NTH5D 332KAT2
R52 680
C56 0.01/16
C57 0.01/16
L10 82
TP1 ENVE
WP1
REC.C 1
PB.C 2
GND 3
NTSC 4
REC.Y 5
IDL5V 6
V.SWP 7
RECS.9V 8
TUNE 9
ENV.DET 10
PB.Y 11
SEC.MES 12
TRICK 13
HA.SW 14
ENV.SW 15
PB.5V 16
SP 17
FE.GND 18
TO MAIN (A) PCB 1/3 P401
L16 100
R37 4.7K
D3
L11 82
JS17
C60 0.01/16
R48 10K
JS18
R38 510
R35 3K
VR1 1K
REC-C
3.8V
0V
TR18 DTC114ES
D4
0V
0V
TR19 DTC144ES
TR13 UN421D
0.9V
0V
C55 0.01/16
*L14 180: EA, ES, EK, EK-V
150: EXCEPT EA, EK, ES
EK-V
C52
20P (J)
R46 510
REC-Y
VR2 1K
R47 3.3K
0V
0V
TR16 DTC144ES
JFX ONLY
JS101
L101 2.7mH
D101 MTZJ2.7A
FL101 V1105-2
4 3 2 6 1
TR101 2SC1740S
0.3V
(5.5V)
(-0.6V)
0.3V
R101 22K
JS103
JS102
C105 0.0033
C1047 0.0047 (M)
C101 0.01/16
C102 47/16 (M)
C103 0.0068/100 (J)
C19 0.01/16
L1 100
TP2 V.SWP
WP101 FE GND 2 1
JFX ONLY
TO FULL TRACK ERASE HEAD

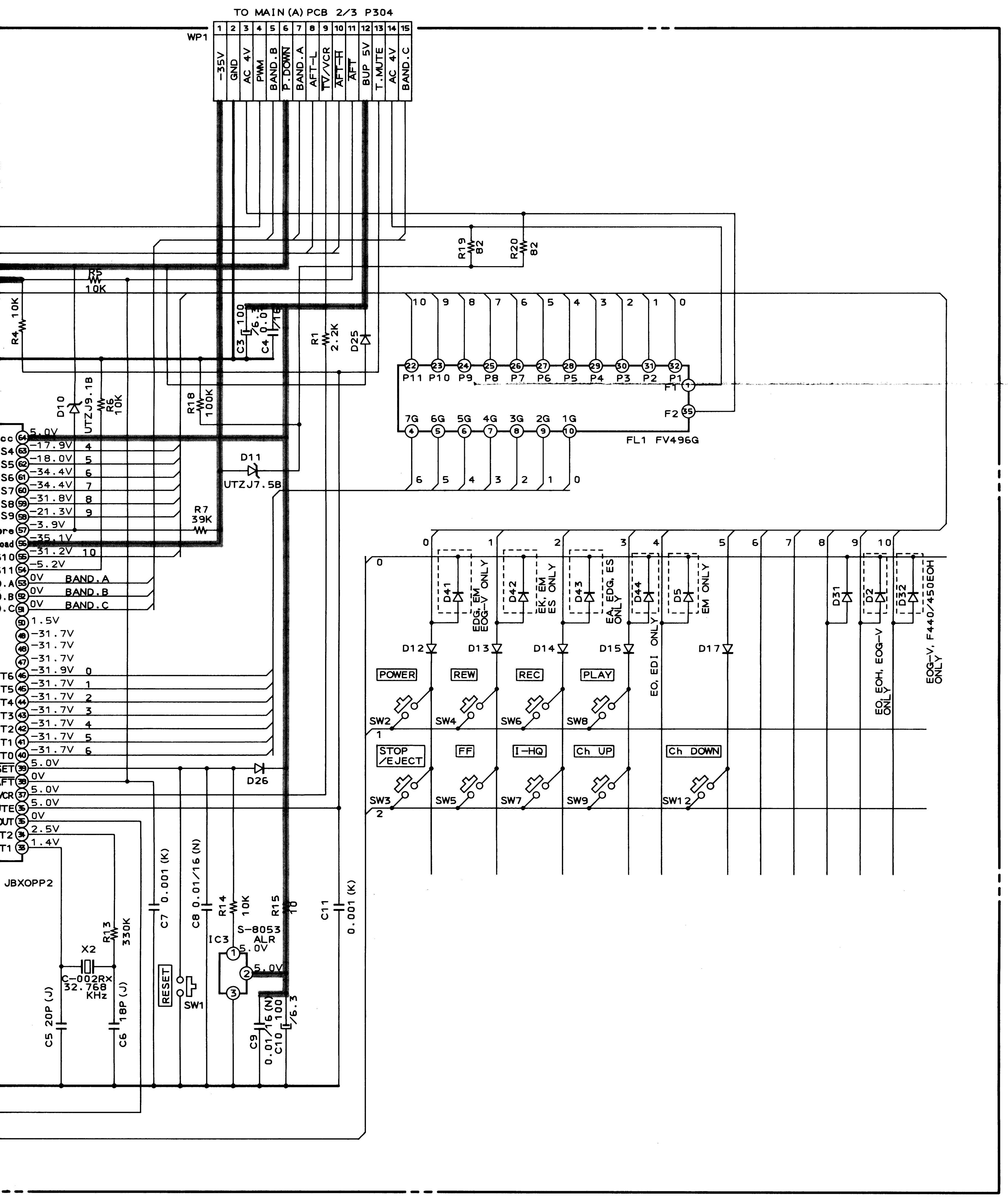
INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
( ) : REC MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH (K)
ALL DIODES ARE 1SS131

TRANSISTORS 2SA933S AND 2SC1740 CAN BE
SUBSTITUTED FOR 2SA1317 AND 2SC3330 RESPECTIVELY.

JFX/JFX-L
PRE AMP
SCHEMATIC DIAGRAM
No. 21-10 V115210M
A1


A
B
C
D
E
F
1
2
3
4
5
6
7
8
PH1 GP1U521X
LIMITER
A
BPF
DEMOD
COMP
EXCEPT EOG-V
JS1
D33
MA719
R3
47
EXCEPT EOG-V
JS2
JS3
EOG-V ONLY
EOG-V ONLY
R26
10K
R27
3.3K
EOG-V ONLY
C12
100/6.3
IB1 10K×9
IB2 10K×3
R2
1K
AFT-L
AFT-H
C1
100/6.3
C2
0.01 /16 (N)
R4 10K
R5
10K
WP1
-35V
C13
0.01/16 (N)
R21 3.3K
D10
UTZJ9.1B
R6
10K
R18
100K
R7
39K
WP2
1 N.C
2 IDL 5V
3 SYS/SO
4 RESET
5 S.RADY
6 H.SYNC
7 SYS/SI
8 SYS.CLK
9 GND
10 IMS.SO
11 IMS.CLK
12 IMS.STB
13 RESET
TO MAIN (A) PCB 1/3 P400
F440/450EOH, EOG-V ONLY
*WP3/P3
5 VPS.CLK
4 VPS/SI
3 VPS/SO
2 VPS.RDY
1 RESET
TO VPST/PDC PCB P1
*WP3: EOG-V
P3: F440/450EOH
R16
10K
R8 22K
R9 22K
-17.6V ① S3
-17.6V ② S2
-17.6V ③ S1
-14.3V ④ S0
5.0V ⑤ P.DOWN
4.9V ⑥ IMS.CLK
0.2V ⑦ IMS.SO
0V ⑧
5.1V ⑨ REMOCON
0.6V ⑩ H.SYNC
0V ⑪ AFT-L
5.1V ⑫ AFT-H
0.1V ⑬ IMS.STB
4.6V ⑭ SO
4.8V ⑮ SYS.CLK
5.0V ⑯ VPS.CLK
5.0V ⑰ EEP.SCL
5.1V ⑱ EEP.SDA
0V ⑲
0V ⑳
2.2V ㉑ P60
0V ㉒ P61
0V ㉓ P62
0V ㉔ P63
4.3V ㉕ SYS.SI
5.1V ㉖ VPS.SI
0.9V ㉗ SYS.RDY
5.1V ㉘ VPS.RDY
2.3V ㉙ PWM
2.1V ㉚ X1
2.4V ㉛ X2
㉜ Vss
3
2
1
0
0
1
2
Vcc (64) 5.0V
S4 (63) -17.9V 4
S5 (62) -18.0V 5
S6 (61) -34.4V 6
S7 (60) -34.4V 7
S8 (59) -31.8V 8
S9 (58) -21.3V 9
V.pre (57) -3.9V
V.load (56) -35.1V
S10 (55) -31.2V 10
S11 (54) -5.2V
BAND.A (53) 0V BAND.A
BAND.B (52) 0V BAND.B
BAND.C (51) 0V BAND.C
(50) 1.5V
(49) -31.7V
(48) -31.7V
(47) -31.7V
T6 (46) -31.9V 0
T5 (45) -31.7V 1
T4 (44) -31.7V 2
T3 (43) -31.7V 3
T2 (42) -31.7V 4
T1 (41) -31.7V 5
T0 (40) -31.7V 6
RESET (39) 5.0V
AFT (38) 0V
TV/VCR (37) 5.0V
T.MUTE (36) 5.0V
RESET OUT (35) 0V
XT2 (34) 2.5V
XT1 (33) 1.4V
IC1
UPD75217CW-146 JBXOPP2
R11
4.7K
D27
5.1V
0V
TR1
DTC144ES
IC2
ST24C01
① NC
② NC
③ NC
④ Vss
Vcc ⑧ 5.1V
NC ⑦
SCL ⑥ 5.0V
SDA ⑤ 5.1V
C14 4.7/50
R24 10K
R12 10K
C15
0.33/50
R23 3.3K
X1
CST
4.19MGW
4.194MHz
R13
330K
X2
C-002RX
32.768 KHz
C5 20P (J)
C6 18P (J)
C7 0.001 (K)
C8 0.01/16 (N)
R14
IC
RESET
SW1


TO MAIN (A) PCB 2/3 P304
WP1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
-35V
GND
AC 4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC 4V
BAND.C
R19 82
R20 82
R5 10K
R4 10K
C3 100/6.3
C4 0.01/16
R1 2.2K
D25
D10 UTZJ9.1B
R6 10K
R18 100K
D11 UTZJ7.5B
R7 39K
P11 P10 P9 P8 P7 P6 P5 P4 P3 P2 P1
F1 F2
7G 6G 5G 4G 3G 2G 1G
FL1 FV496G
5.0V
-17.9V 4
-18.0V 5
-34.4V 6
-34.4V 7
-31.8V 8
-21.3V 9
-3.9V
-35.1V
-31.2V 10
-5.2V
0V BAND.A
0V BAND.B
0V BAND.C
1.5V
-31.7V
-31.7V
-31.7V
-31.9V 0
-31.7V 1
-31.7V 2
-31.7V 3
-31.7V 4
-31.7V 5
-31.7V 6
5.0V
0V
5.0V
5.0V
0V
2.5V
1.4V
JBXOPP2
D26
D41 EDG, EM EOG-V ONLY
D42 EK, EM ES ONLY
D43 EA, EDG, ES ONLY
D44 EO, EDI ONLY
D5 EM ONLY
D31
D2 EO, EOH, EOG-V ONLY
D32 EOG-V, F440/450EOH ONLY
D12 D13 D14 D15 D17
POWER REW REC PLAY
SW2 SW4 SW6 SW8
STOP /EJECT FF I-HQ Ch UP Ch DOWN
SW3 SW5 SW7 SW9 SW12
C7 0.001 (K)
C8 0.01/16 (N)
R14 10K
R15 10
C11 0.001 (K)
IC3 S-8053 ALR
5.0V
5.0V
R13 330K
X2 C-002RX 32.768 KHz
C5 20P (J)
C6 18P (J)
RESET SW1
C9 0.01/16 (N)
C10 100/6.3

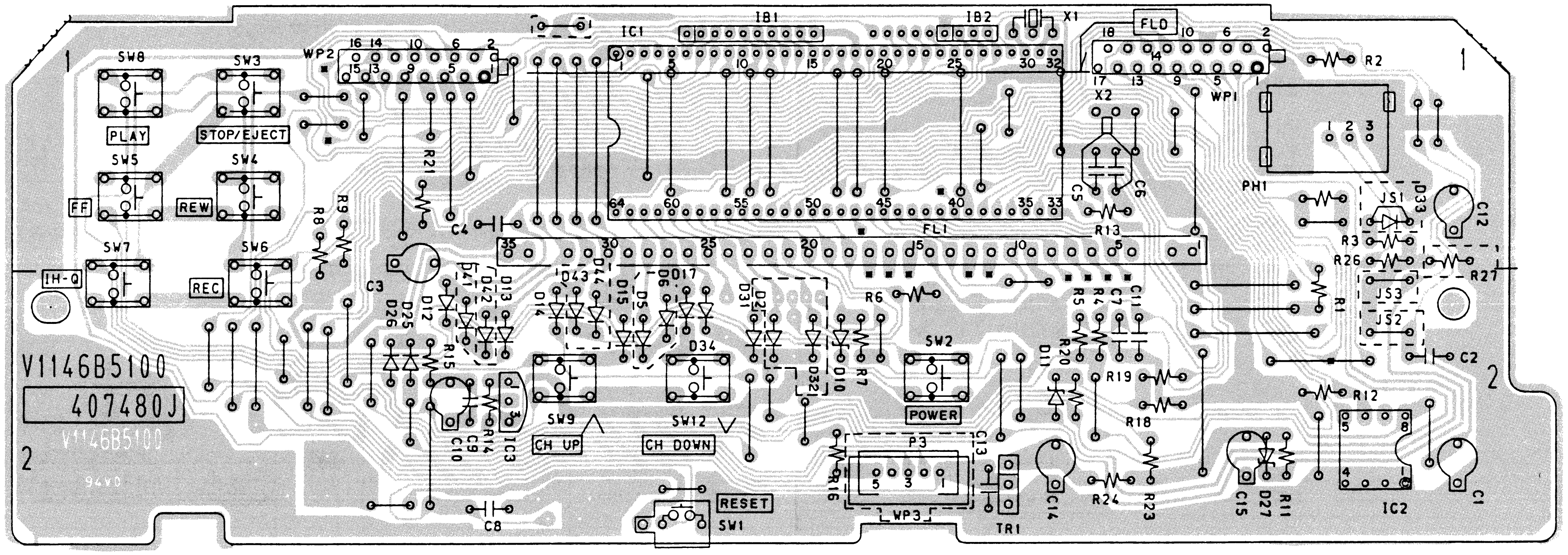
OPREATION (A) PCB V1146B5100

▬ B (POWER SUPPLY) LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.

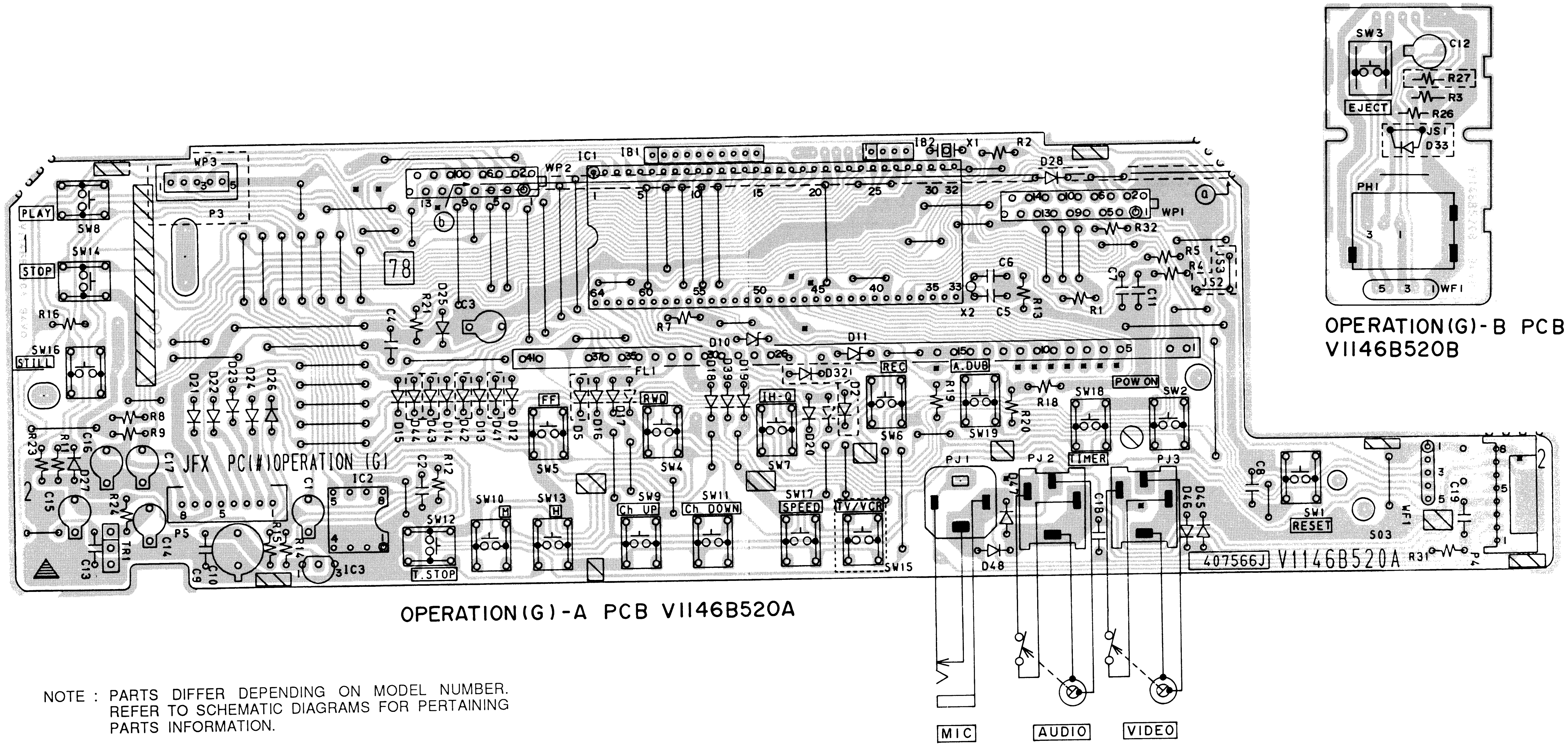
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)
ALL DIODES ARE 1SS131T

JFX-L
OPERATION (A)
SCHEMATIC DIAGRAM
No. 21-11 V115211M
A1


SW8
SW3
WP2
IC1
IB1
IB2
X1
FLD
R2
PLAY
STOP/EJECT
SW5
SW4
FF
REW
SW7
SW6
IH-Q
REC
R21
R9
R8
C3
C4
FL1
WP1
X2
C5
C6
PH1
JS1
D33
C12
R3
R26
R27
R13
R6
R5
R4
C7
C11
R1
JS3
JS2
C2
R12
D12
D25
D26
D41
D42
D13
R15
R14
C9
C10
IC3
D43
D44
D14
D15
D5
D6
D17
D34
D31
D2
D32
D10
R7
SW2
POWER
D11
R20
R19
R18
SW9
CH UP
SW12
CH DOWN
P3
WP3
C13
TR1
C14
R16
R24
R23
C15
D27
R11
IC2
C1
RESET
SW1
C8
V1146B5100
407480J
94V0

OPERATION(A) PCB V1146B5100(J1)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.

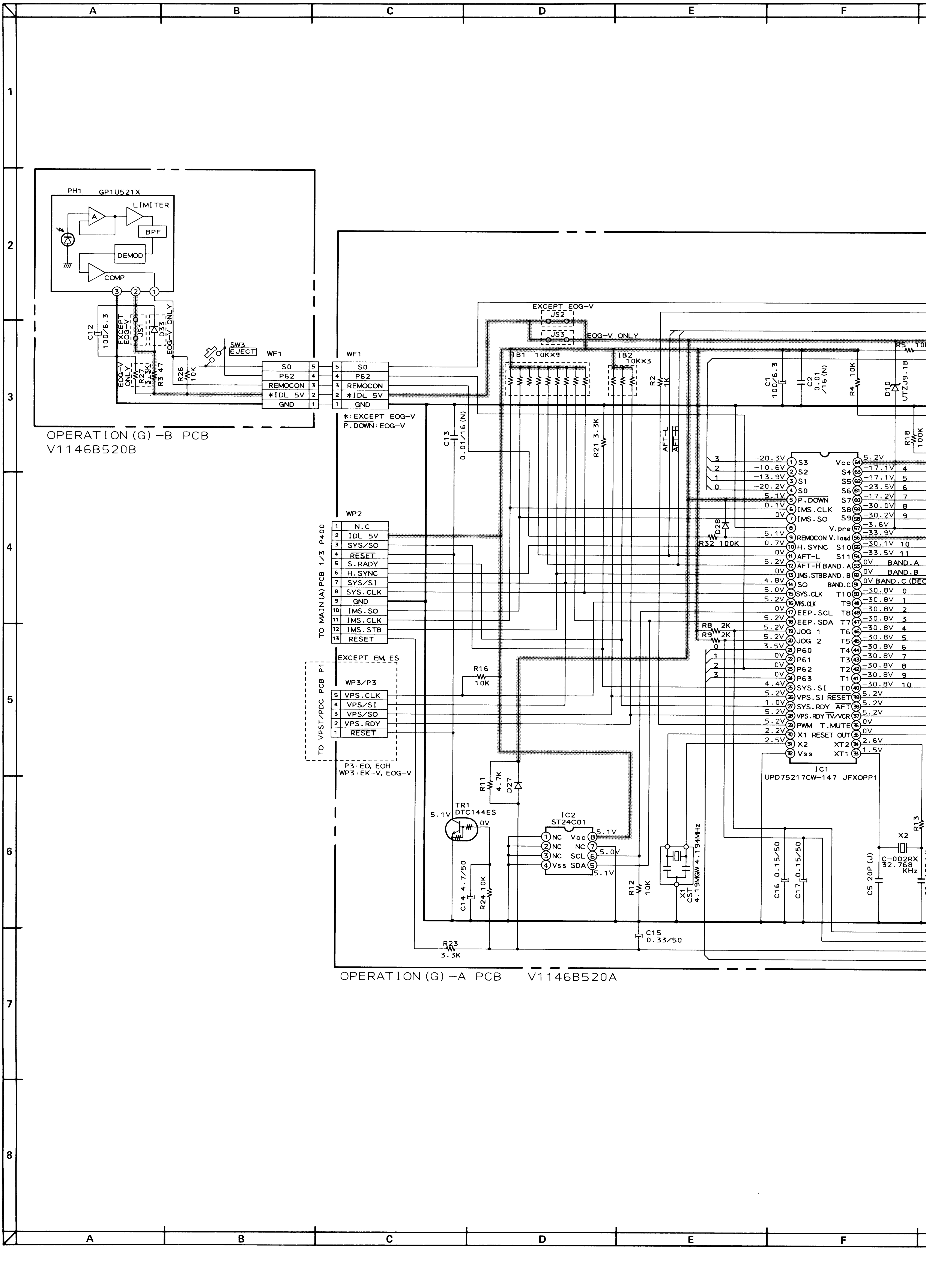

SW3
C12
R27
R3
R26
EJECT
JS1
D33
PH1
3
1
5
3
1
WF1

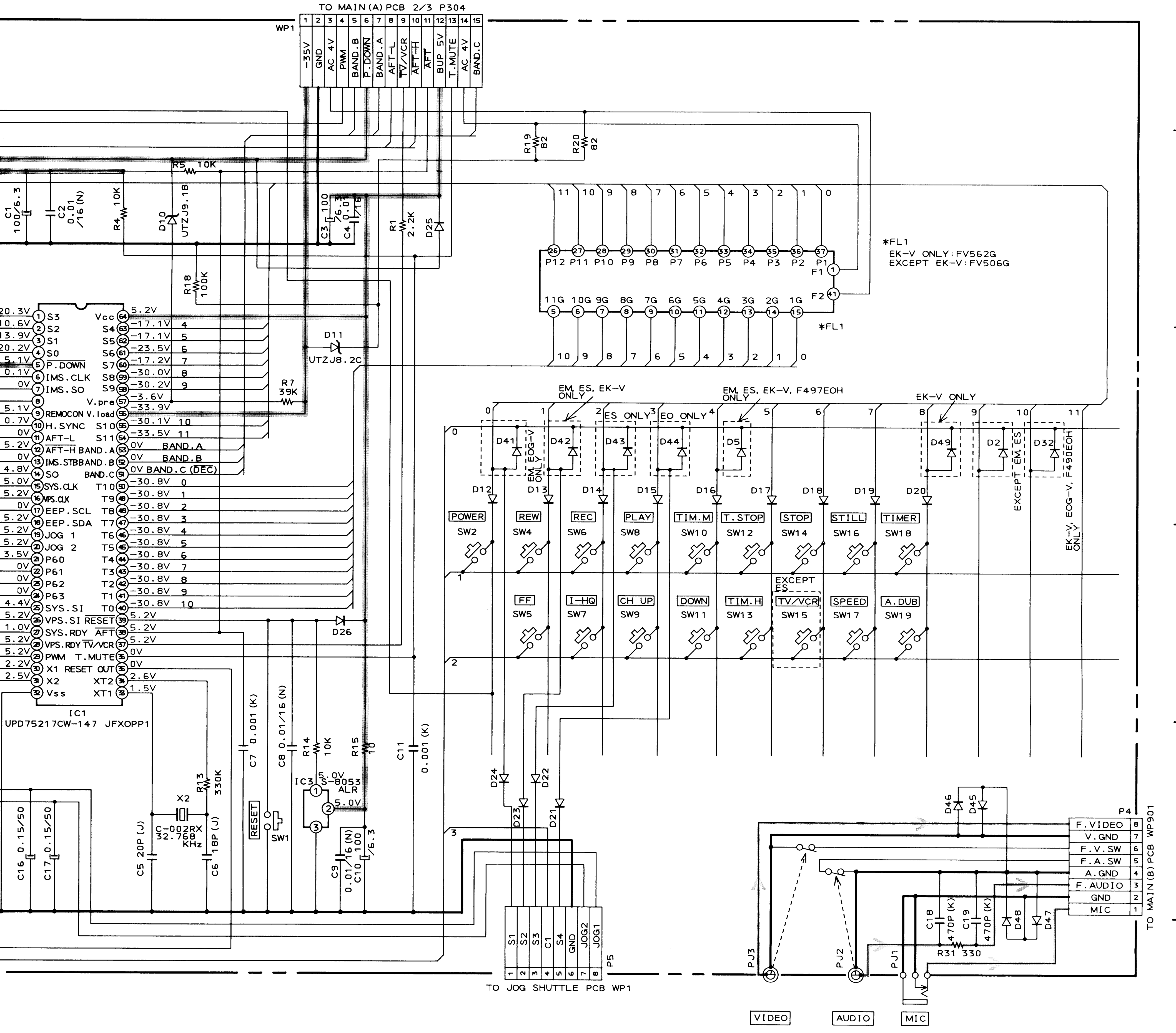
OPERATION(G)-B PCB
V1146B520B

PLAY
SW8
SW14
STOP
R16
SW16
STILL
WP3
P3
78
WP2
IC1
IB1
IB2
X1
R2
D28
WP1
R32
R5
R4
JS3
JS2
R1
C6
C5
R13
X2
C7
C11
C3
C4
R21
D25
R7
D10
D11
D321
FL1
D21
D22
D23
D24
D26
D15
D44
D43
D14
D42
D13
D41
D12
D16
D5
D17
D18
D39
D19
D20
D2
FF
RWD
IH-Q
REC
A.DUB
POW ON
R19
R18
R20
SW18
SW2
SW6
SW19
SW5
SW4
SW7
R8
R9
R23
R11
C16
D27
C17
JFX PC(#1)OPERATION (G)
C2
R12
IC2
C1
C15
R24
TR1
C14
P5
R15
R14
IC3
C13
C9
C10
SW12
T.STOP
SW10
SW13
SW9
Ch UP
SW11
Ch DOWN
SW17
SPEED
TV/VCR
SW15
PJ1
PJ2
TIMER
PJ3
D47
C18
D46
D45
D48
C8
SW1
RESET
S03
WF1
C19
407566J V1146B520A
R31
P4
MIC
AUDIO
VIDEO

OPERATION(G)-A PCB V1146B520A

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.


A
B
C
D
E
F
1
2
3
4
5
6
7
8
PH1 GP1U521X
LIMITER
A
BPF
DEMOD
COMP
C12 100/6.3
EXCEPT EOG-V
JS1
D33
EOG-V ONLY
EOG-V ONLY
R27 3.3K
R3 47
R26 10K
SW3 EJECT
WF1
S0
P62
REMOCON
*IDL 5V
GND
OPERATION(G)-B PCB
V1146B520B
EXCEPT EOG-V
JS2
JS3
EOG-V ONLY
IB1 10K×9
IB2 10K×3
R2 1K
C1 100/6.3
C2 0.01 /16 (N)
R4 10K
D10 UTZJ9.1B
R5 10K
R18 100K
*: EXCEPT EOG-V
P.DOWN: EOG-V
C13 0.01/16 (N)
R21 3.3K
AFT-L
AFT-H
WP2
N.C
IDL 5V
SYS/SO
RESET
S.RADY
H.SYNC
SYS/SI
SYS.CLK
GND
IMS.SO
IMS.CLK
IMS.STB
RESET
TO MAIN (A) PCB 1/3 P400
D28
R32 100K
R8 2K
R9 2K
EXCEPT EM, ES
WP3/P3
VPS.CLK
VPS/SI
VPS/SO
VPS.RDY
RESET
TO VPST/PDC PCB P1
P3: EO, EOH
WP3: EK-V, EOG-V
R16 10K
R11 4.7K
D27
TR1 DTC144ES
5.1V
0V
IC2 ST24C01
NC
NC
NC
Vss
Vcc
NC
SCL
SDA
5.1V
5.0V
5.1V
C14 4.7/50
R24 10K
R12 10K
X1 CST 4.19MGW 4.194MHz
C15 0.33/50
R23 3.3K
C16 0.15/50
C17 0.15/50
C5 20P (J)
X2 C-002RX 32.768 KHz
R13
IC1
UPD75217CW-147 JFXOPP1
-20.3V S3
-10.6V S2
-13.9V S1
-20.2V S0
5.1V P.DOWN
0.1V IMS.CLK
0V IMS.SO
5.1V REMOCON
0.7V H.SYNC
0V AFT-L
5.2V AFT-H
0V IMS.STB
4.8V SO
5.0V SYS.CLK
5.2V VPS.CLK
0V EEP.SCL
5.2V EEP.SDA
5.2V JOG 1
5.2V JOG 2
3.5V P60
0V P61
0V P62
0V P63
4.4V SYS.SI
5.2V VPS.SI
1.0V SYS.RDY
5.2V VPS.RDY
5.2V PWM
2.2V X1
2.5V X2
Vss
Vcc 5.2V
S4 -17.1V 4
S5 -17.1V 5
S6 -23.5V 6
S7 -17.2V 7
S8 -30.0V 8
S9 -30.2V 9
V.pre -3.6V
V.load -33.9V
S10 -30.1V 10
S11 -33.5V 11
BAND.A 0V BAND.A
BAND.B 0V BAND.B
BAND.C 0V BAND.C (DEC
T10 -30.8V 0
T9 -30.8V 1
T8 -30.8V 2
T7 -30.8V 3
T6 -30.8V 4
T5 -30.8V 5
T4 -30.8V 6
T3 -30.8V 7
T2 -30.8V 8
T1 -30.8V 9
T0 -30.8V 10
RESET 5.2V
AFT 5.2V
TV/VCR 5.2V
T.MUTE 0V
RESET OUT 0V
XT2 2.6V
XT1 1.5V
3
2
1
0
0
1
2
3
OPERATION(G)-A PCB V1146B520A

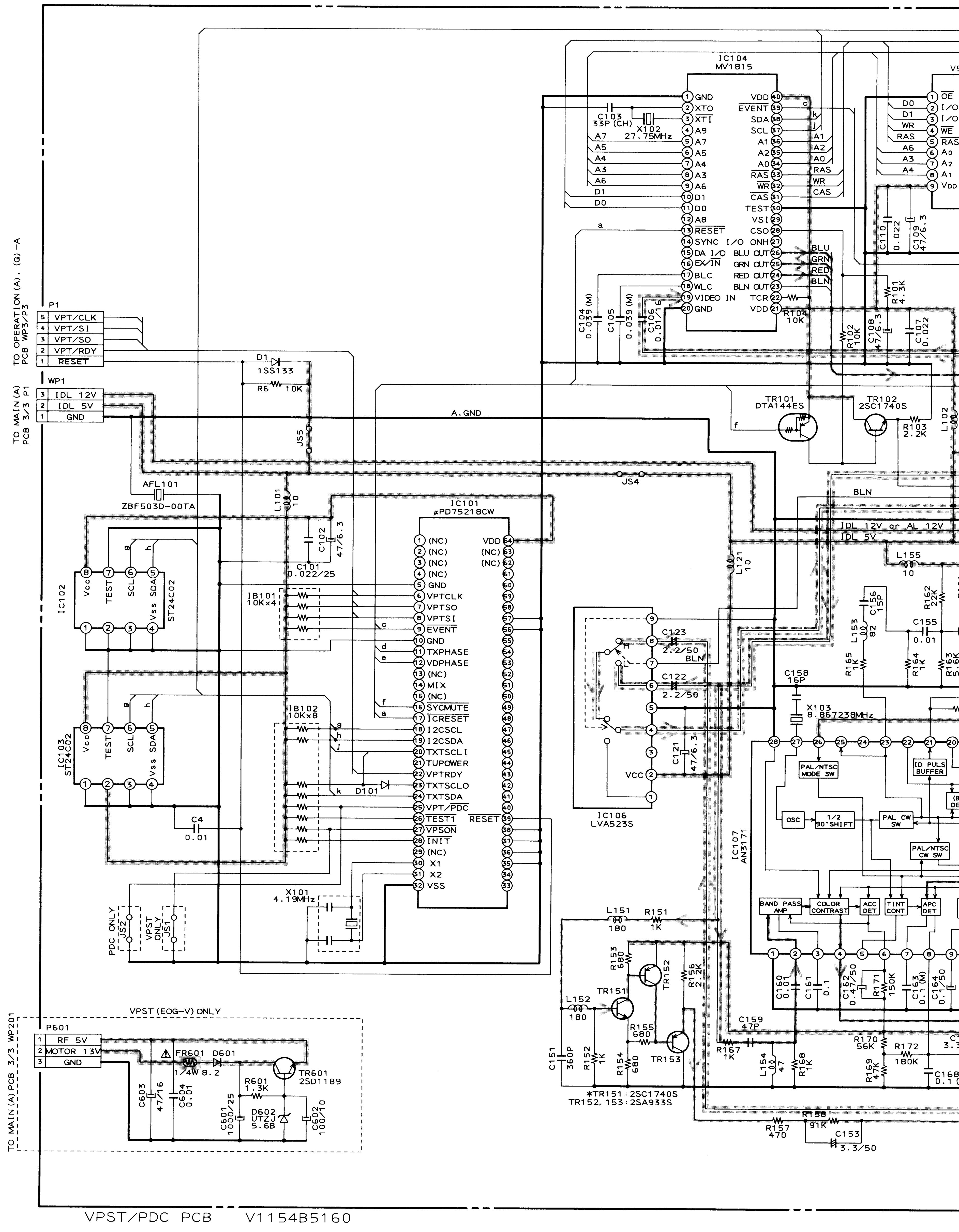

TO MAIN (A) PCB 2/3 P304
WP1
-35V
GND
AC 4V
PWM
BAND.B
P.DOWN
BAND.A
AFT-L
TV/VCR
AFT-H
AFT
BUP 5V
T.MUTE
AC 4V
BAND.C
R19 82
R20 82
R5 10K
C1 100/6.3
C2 0.01/16(N)
R4 10K
D10 UTZJ9.1B
C3 100/6.3
C4 0.01/16
R1 2.2K
D25
R18 100K
D11 UTZJ8.2C
R7 39K
*FL1
EK-V ONLY:FV562G
EXCEPT EK-V:FV506G
P12 P11 P10 P9 P8 P7 P6 P5 P4 P3 P2 P1
F1 F2
11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G
IC1
UPD75217CW-147 JFXOPP1
S3 S2 S1 S0 P.DOWN IMS.CLK IMS.SO V.pre REMOCON V.load H.SYNC AFT-L AFT-H BAND.A IMS.STB BAND.B SO BAND.C SYS.CLK VPS.CLK EEP.SCL EEP.SDA JOG 1 JOG 2 P60 P61 P62 P63 SYS.SI VPS.SI RESET SYS.RDY AFT VPS.RDY TV/VCR PWM T.MUTE X1 RESET OUT X2 XT2 Vss XT1
Vcc S4 S5 S6 S7 S8 S9 S10 S11 T10 T9 T8 T7 T6 T5 T4 T3 T2 T1 T0
EM, ES, EK-V ONLY
ES ONLY
EO ONLY
EM, ES, EK-V, F497EOH ONLY
EK-V ONLY
EM, EOG-V ONLY
EXCEPT EM, ES
EK-V, EOG-V, F490EOH ONLY
D41 D42 D43 D44 D5 D49 D2 D32
D12 D13 D14 D15 D16 D17 D18 D19 D20
POWER SW2
REW SW4
REC SW6
PLAY SW8
TIM.M SW10
T.STOP SW12
STOP SW14
STILL SW16
TIMER SW18
FF SW5
I-HQ SW7
CH UP SW9
DOWN SW11
TIM.H SW13
EXCEPT ES
TV/VCR SW15
SPEED SW17
A.DUB SW19
D26
C7 0.001(K)
C8 0.01/16(N)
R14 10K
R15 10
C11 0.001(K)
IC3 S-8053 ALR
5.0V
RESET SW1
X2 C-002RX 32.768 KHz
R13 330K
C5 20P(J)
C6 18P(J)
C16 0.15/50
C17 0.15/50
C9 0.01/16(N)
C10 100/6.3
D24 D23 D22 D21
S1 S2 S3 C1 S4 GND JOG2 JOG1
P5
TO JOG SHUTTLE PCB WP1
D46 D45
P4
F.VIDEO 8
V.GND 7
F.V.SW 6
F.A.SW 5
A.GND 4
F.AUDIO 3
GND 2
MIC 1
TO MAIN (B) PCB WP901
C18 470P(K)
C19 470P(K)
D48 D47
R31 330
PJ3 PJ2 PJ1
VIDEO
AUDIO
MIC

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)
ALL DIODES ARE 1SS131T

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED: SP)

B (POWER SUPPLY) LINE
AUDIO SIGNAL LINE
VIDEO IN (REC) SIGNAL LINE

JFX
OPERATION (G) -A, B
SCHEMATIC DIAGRAM
No. 21-12 V115212M
A1


IC104
MV1815
GND
XTO
XTI
A9
A7
A5
A4
A3
A6
D1
D0
A8
RESET
SYNC I/O
DA I/O
EX/IN
BLC
WLC
VIDEO IN
GND
VDD
EVENT
SDA
SCL
A1
A2
A0
RAS
WR
CAS
TEST
VSI
CSO
ONH
BLU OUT
GRN OUT
RED OUT
BLN OUT
TCR
VDD
C103
33P (CH)
X102
27.75MHz
C104
0.039 (M)
C105
0.039 (M)
C106
0.01/16
R104
10K
C110
0.022
C109
47/6.3
R101
4.3K
R102
10K
C108
47/6.3
C107
0.022
TR101
DTA144ES
TR102
2SC1740S
R103
2.2K
L102
TO OPERATION (A). (G)-A PCB WP3/P3
P1
VPT/CLK
VPT/SI
VPT/SO
VPT/RDY
RESET
WP1
TO MAIN (A) PCB 3/3 P1
IDL 12V
IDL 5V
GND
D1
1SS133
R6 10K
JS5
A.GND
JS4
AFL101
ZBF503D-00TA
L101
10
C102
47/6.3
C101
0.022/25
IC101
μPD75218CW
(NC)
VPTCLK
VPTSO
VPTSI
EVENT
TXPHASE
VDPHASE
MIX
SYCMUTE
ICRESET
I2CSCL
I2CSDA
TXTSCLI
TUPOWER
VPTRDY
TXTSCLO
TXTSDA
VPT/PDC
TEST1
VPSON
INIT
X1
X2
VSS
RESET
IB101
10K×4
IB102
10K×8
D101
IC102
ST24C02
IC103
ST24C02
Vcc
TEST
SCL
Vss
SDA
C4
0.01
X101
4.19MHz
PDC ONLY
JS2
VPST ONLY
JS1
BLN
IDL 12V or AL 12V
IDL 5V
L155
10
L121
10
C156
15P
R162
22K
C155
0.01
L153
82
R165
1K
R164
1K
R163
5.6K
C123
2.2/50
C122
2.2/50
C158
16P
X103
8.867238MHz
C121
47/6.3
VCC
IC106
LVA523S
IC107
AN3171
PAL/NTSC MODE SW
ID PULS BUFFER
OSC
1/2 90°SHIFT
PAL CW SW
PAL/NTSC CW SW
BAND PASS AMP
COLOR CONTRAST
ACC DET
TINT CONT
APC DET
L151
180
R151
1K
R153
680
TR152
R156
2.2K
TR151
L152
180
R155
680
TR153
C151
360P
R152
1K
R154
680
C159
47P
R167
1K
L154
47
R168
1K
C160
0.01
C161
0.1
C162
0.47/50
R171
150K
C163
0.1 (M)
C164
0.1/50
R170
56K
R172
180K
R169
47K
C168
*TR151: 2SC1740S
TR152, 153: 2SA933S
R157
470
R158
91K
C153
3.3/50
VPST (EOG-V) ONLY
P601
RF 5V
MOTOR 13V
GND
TO MAIN (A) PCB 3/3 WP201
FR601
1/4W 8.2
D601
TR601
2SD1189
R601
1.3K
C603
47/16
C604
0.01
C601
1000/25
D602
UTZJ 5.6B
C602
100/10

VPST/PDC PCB V1154B5160

▬ B (POWER SUPPLY) LINE

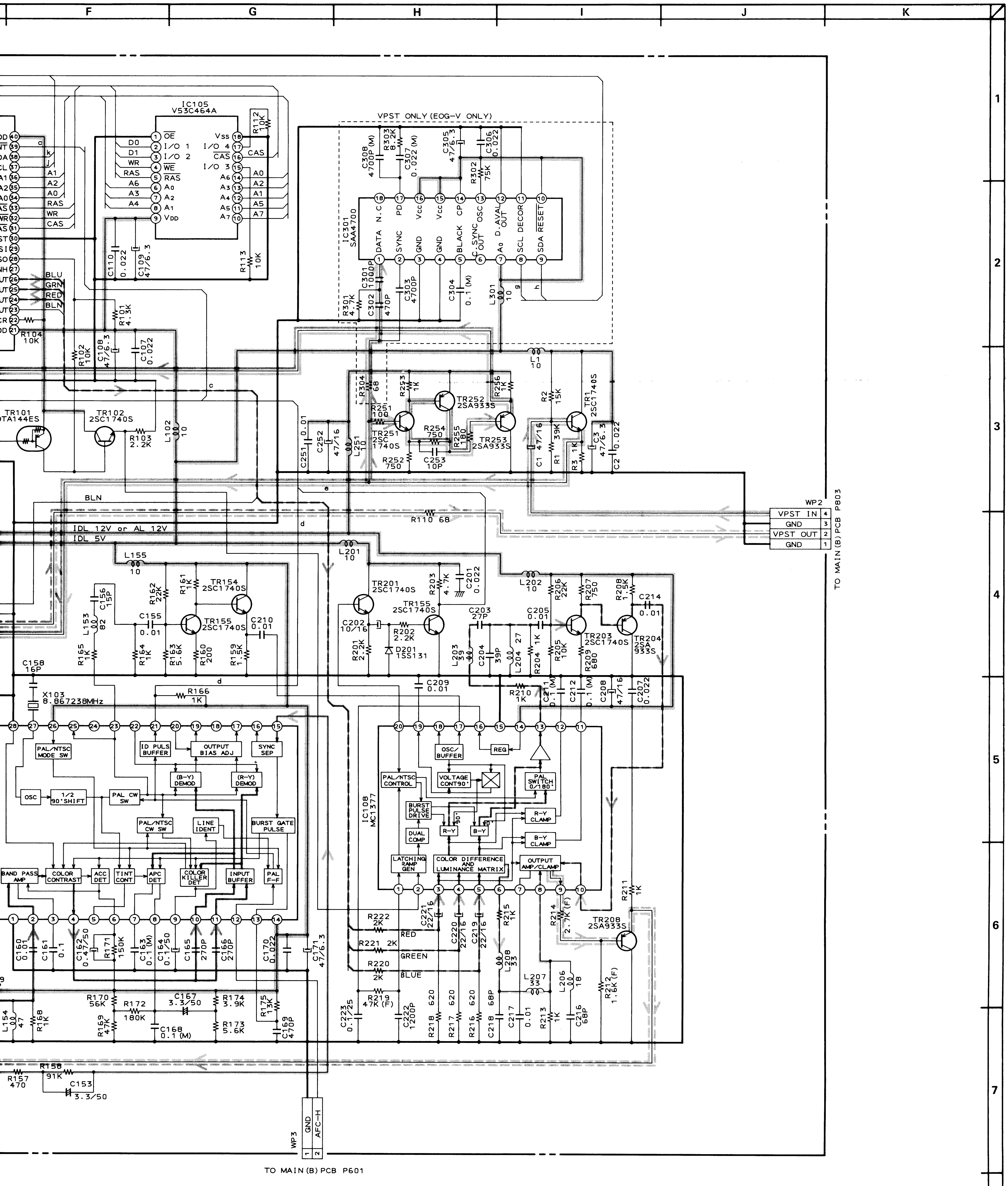
▬ Y IN (TUNER) SIGNAL

- - - Y VPT SIGNAL

▬ CHROMA IN (TUNER) SIGNAL

- - - CHROMA VPT SIGNAL

NOTE
UNLES
ALL R
ALL C


F
G
H
I
J
K
1
2
3
4
5
6
7
8
IC105
V53C464A
OE
I/O 1
I/O 2
WE
RAS
A0
A2
A1
VDD
VSS
I/O 4
CAS
I/O 3
A6
A3
A4
A5
A7
D0
D1
WR
R112
10K
R113
10K
C110
0.022
C109
47/6.3
BLU
GRN
RED
BLN
R104
10K
R101
4.3K
R102
10K
C108
47/6.3
C107
0.022
TR101
DTA144ES
TR102
2SC1740S
R103
2.2K
L102
10
VPST ONLY (EOG-V ONLY)
IC301
SAA4700
DATA
SYNC
GND
BLACK
C.SYNC OUT
A0
SCL
SDA
N.C
PD
Vcc
CP
OSC
D.AVAL OUT
DECOR
RESET
C308
4700P (M)
R303
8.2K
C307
0.022 (M)
C305
47/6.3
C306
0.022
R302
75K
R301
4.7K
C301
1000P
C302
470P
C303
4700P
C304
0.1 (M)
L301
10
R304
68
R253
1K
TR252
2SA933S
R256
1K
L1
10
R2
15K
TR1
2SC1740S
R251
100
TR251
2SC1740S
R254
750
R255
180
TR253
2SA933S
R252
750
C253
10P
C251
0.01
C252
47/16
L251
10
C1 47/16
R1 39K
R3 1K
C3 47/6.3
C2 0.022
BLN
IDL 12V or AL 12V
IDL 5V
R110 68
WP2
VPST IN 4
GND 3
VPST OUT 2
GND 1
TO MAIN (B) PCB P803
L155
10
R162
22K
R161
1K
TR154
2SC1740S
C156
15P
L153
82
C155
0.01
TR155
2SC1740S
C210
0.01
R165 1K
R164 1K
R163 5.6K
R160 200
R159 1.5K
C158
16P
X103
8.867238MHz
R166
1K
L201
10
TR201
2SC1740S
R203
4.7K
C201
0.022
C202
10/16
R202
2.2K
D201
1SS131
R201
2.2K
L202
10
R206
22K
R207
750
R208
1.5K
C214
0.01
C203
27P
C205
0.01
TR203
2SC1740S
TR204
2SA933S
L203
39
C204
39P
L204
27
R204
1K
R205
10K
R209
680
C209
0.01
R210
1K
C211
0.1 (M)
C212
0.1 (M)
C208
47/16
C207
0.022
PAL/NTSC MODE SW
ID PULS BUFFER
OUTPUT BIAS ADJ
SYNC SEP
(B-Y) DEMOD
(R-Y) DEMOD
OSC
1/2 90°SHIFT
PAL CW SW
PAL/NTSC CW SW
LINE IDENT
BURST GATE PULSE
BAND PASS AMP
COLOR CONTRAST
ACC DET
TINT CONT
APC DET
COLOR KILLER DET
INPUT BUFFER
PAL F-F
IC108
MC1377
OSC/BUFFER
REG
PAL/NTSC CONTROL
VOLTAGE CONT90°
PAL SWITCH 0/180°
BURST PULSE DRIVE
R-Y CLAMP
DUAL COMP
R-Y
B-Y
B-Y CLAMP
LATCHING RAMP GEN
COLOR DIFFERENCE AND LUMINANCE MATRIX
OUTPUT AMP/CLAMP
C160 0.1
C161 0.1
C162 0.47/50
R171 150K
C163 0.1 (M)
C164 0.1/50
C165 270P
C166 270P
C170 0.022
C171 47/6.3
R170 56K
R172 180K
C167 3.3/50
R174 3.9K
R169 47K
C168 0.1 (M)
R173 5.6K
R175 13K
C169 470P
L154 47
R158 1K
R156 91K
R157 470
C153 3.3/50
WP3
GND 1
AFC-H 2
TO MAIN (B) PCB P601
R222 2K
RED
R221 2K
GREEN
R220 2K
BLUE
R219 47K (F)
C221 22/16
C220 22/16
C219 22/16
R215 1K
R214 2.7K (F)
R211 1K
TR208 2SA933S
L208 33
L207 33
L206 18
R212 1.6K (F)
C223 0.1/25
C222 1200P
R218 620
R217 620
R216 620
C218 68P
C217 0.01
R213 1K
C216 68P
a
b
c
d
e
g
h
j
k

LINE

IAL

2) SIGNAL

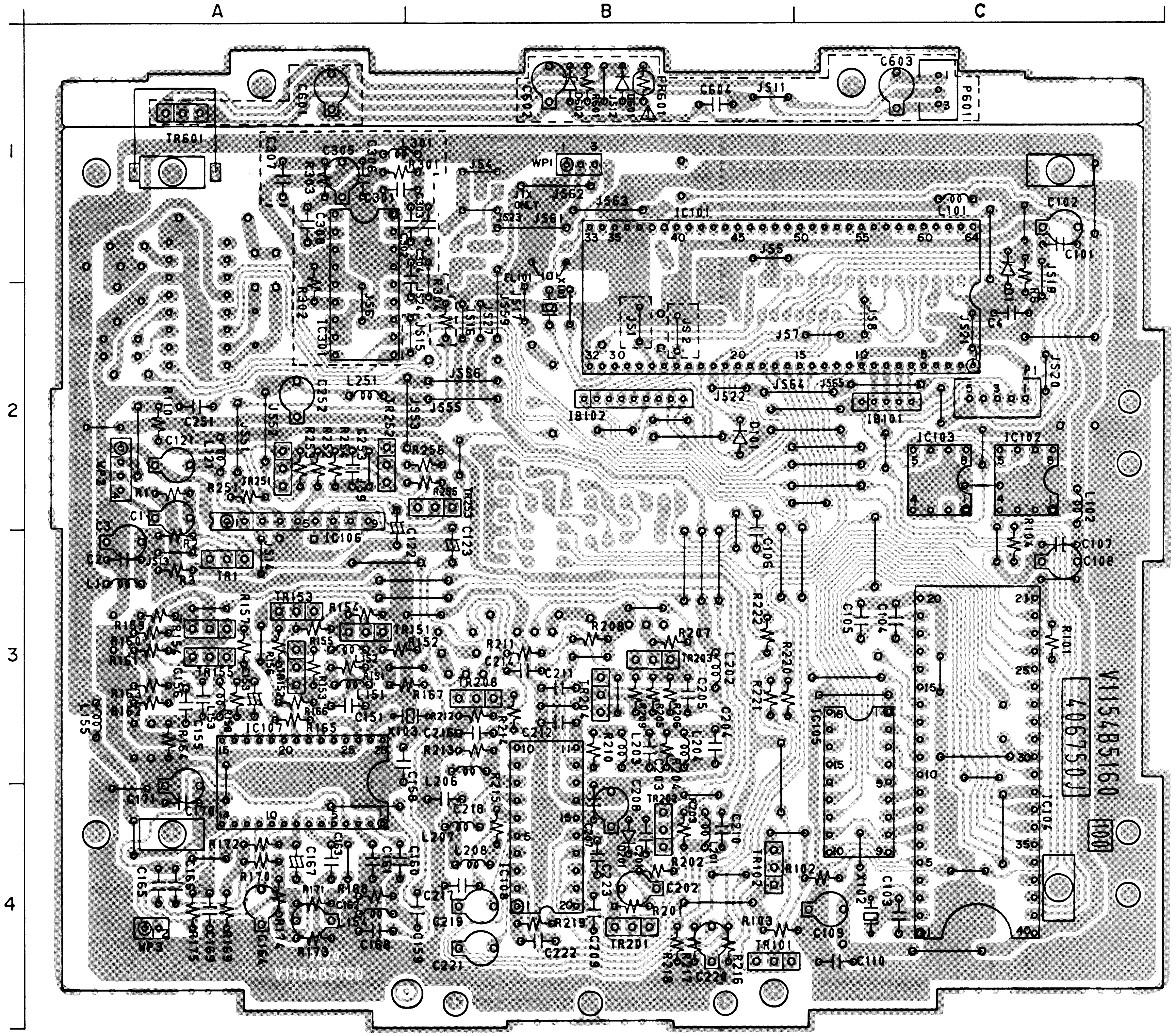
IAL

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

VS-F440EOG-V
VS-F480EK-V/EOG-V
VPST/PDC
SCHEMATIC DIAGRAM
No.21-13 V115213M
A1



VPST / PDC PCB V1154B5160

PRINCIPAL PARTS LOCATION

ICs

IC101	B,C1,2
IC102	C2
IC103	C2
IC104	C3,4
IC105	C3,4
IC106	A2
IC107	A3,4
IC108	B3,4
IC301	A1,2

CONNECTORs & WIREs

WP1	B1
WP2	A2
WP3	A4
P1	C2
P601	C1

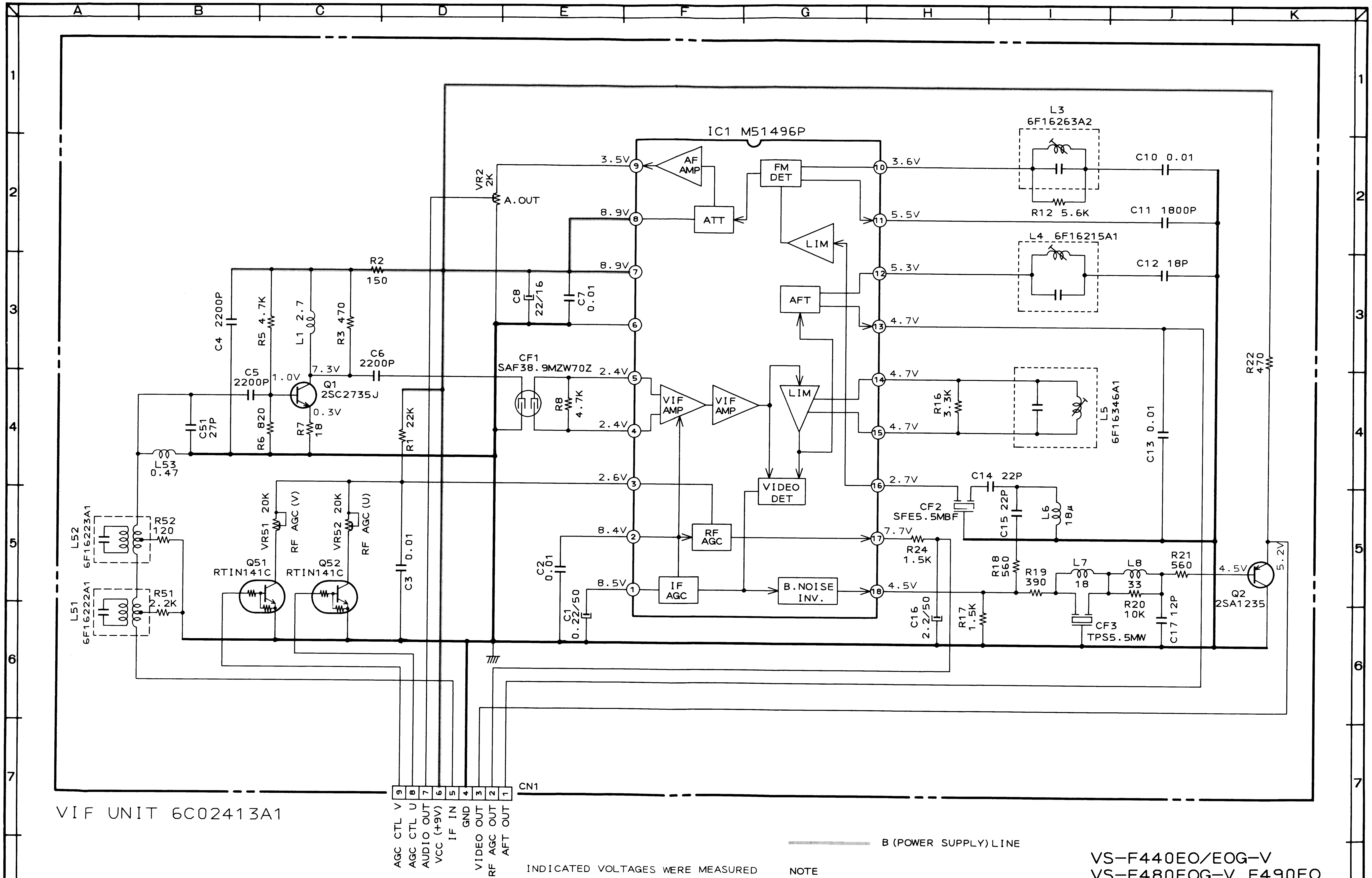
TRANSISTORs

TR1	A1
TR101	B4
TR102	B4
TR151	A3
TR152	A3
TR153	A3
TR154	A3
TR155	A3
TR201	B4
TR202	B4
TR203	B3
TR204	B3
TR208	B3
TR251	A2
TR252	A2
TR253	B2
TR601	A1

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.

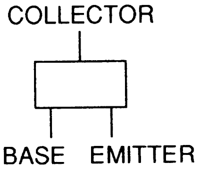

A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
IC1 M51496P
AF AMP
FM DET
ATT
LIM
AFT
VIF AMP
VIF AMP
LIM
VIDEO DET
RF AGC
IF AGC
B.NOISE INV.
3.5V
8.9V
8.9V
2.4V
2.4V
2.6V
8.4V
8.5V
3.6V
5.5V
5.3V
4.7V
4.7V
4.7V
2.7V
7.7V
4.5V
VR2 2K
A.OUT
R2 150
C8 22/16
C7 0.01
C4 2200P
R5 4.7K
L1 2.7
R3 470
C6 2200P
C5 2200P
1.0V
7.3V
Q1 2SC2735J
0.3V
R6 820
R7 18
R1 22K
CF1 SAF38.9MZW70Z
R8 4.7K
C51 27P
L53 0.47
L52 6F16223A1
R52 120
L51 6F16222A1
R51 2.2K
VR51 20K
RF AGC (V)
VR52 20K
RF AGC (U)
Q51 RTIN141C
Q52 RTIN141C
C3 0.01
C2 0.01
C1 0.22/50
L3 6F16263A2
R12 5.6K
C10 0.01
C11 1800P
L4 6F16215A1
C12 18P
R16 3.3K
L5 6F16346A1
C13 0.01
R22 470
C14 22P
CF2 SFE5.5MBF
C15 22P
L6 18μ
R24 1.5K
R18 560
R19 390
L7 18
L8 33
R21 560
4.5V
5.2V
Q2 2SA1235
R20 10K
C17 12P
CF3 TPS5.5MW
C16 2.2/50
R17 1.5K
CN1
9 8 7 6 5 4 3 2 1
AGC CTL V
AGC CTL U
AUDIO OUT
VCC (+9V)
IF IN
GND
VIDEO OUT
RF AGC OUT
AFT OUT
VIF UNIT 6C02413A1

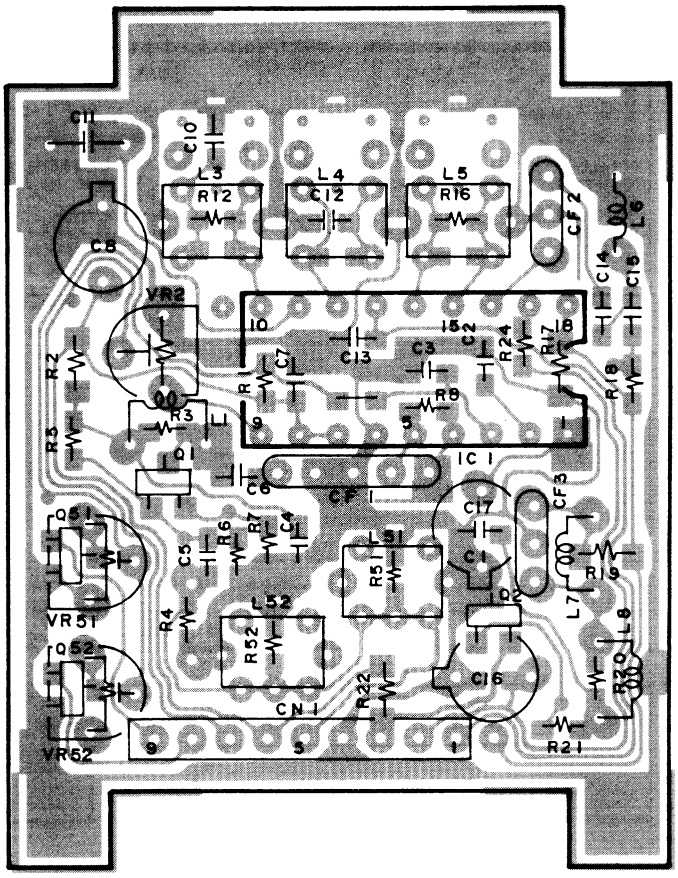
B (POWER SUPPLY) LINE

INDICATED VOLTAGES WERE MEASURED DURING E-E (STOP) MODE.

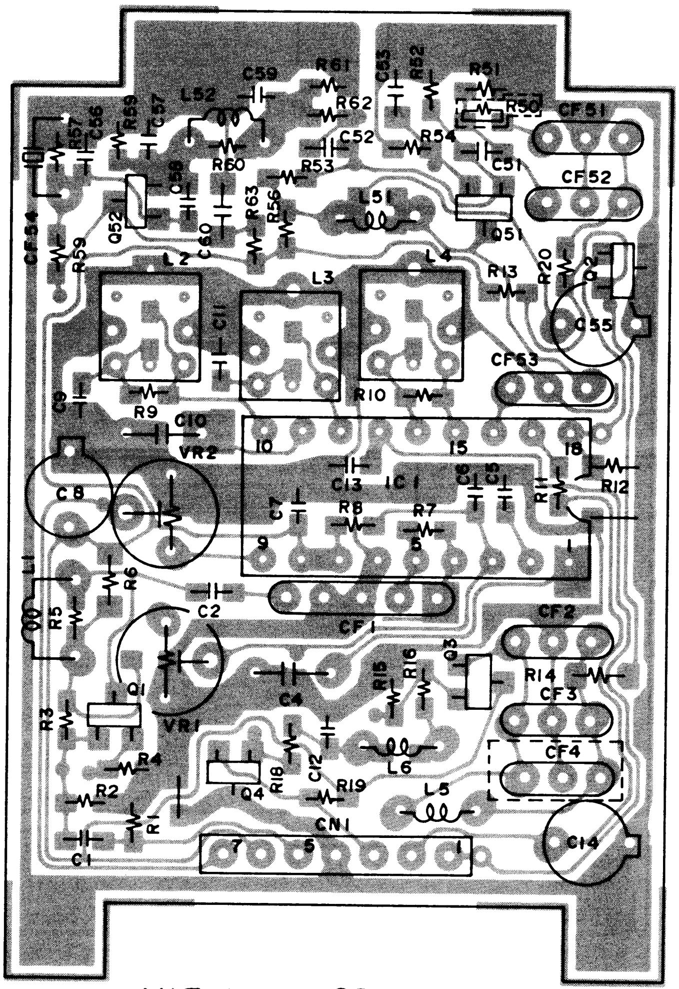
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH (K)

VS-F440EO/EOG-V
VS-F480EOG-V, F490EO
VIF UNIT
SCHEMATIC DIAGRAM
No.21-14 V115214M
A3

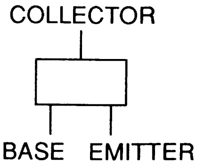

COLLECTOR
BASE
EMITTER


C11
C10
L3
L4
L5
R12
C12
R16
CF2
L6
C8
C14
C15
VR2
10
15
18
C13
C3
C2
R24
R17
R2
R1
C7
R8
R18
R3
9
5
R5
Q1
IC1
C6
CF1
CF3
Q51
C17
R6
R7
C4
L51
C5
C1
R51
R19
L7
VR51
Q2
R4
L52
L8
Q52
R52
R22
C16
R20
CN1
VR52
9
5
1
R21

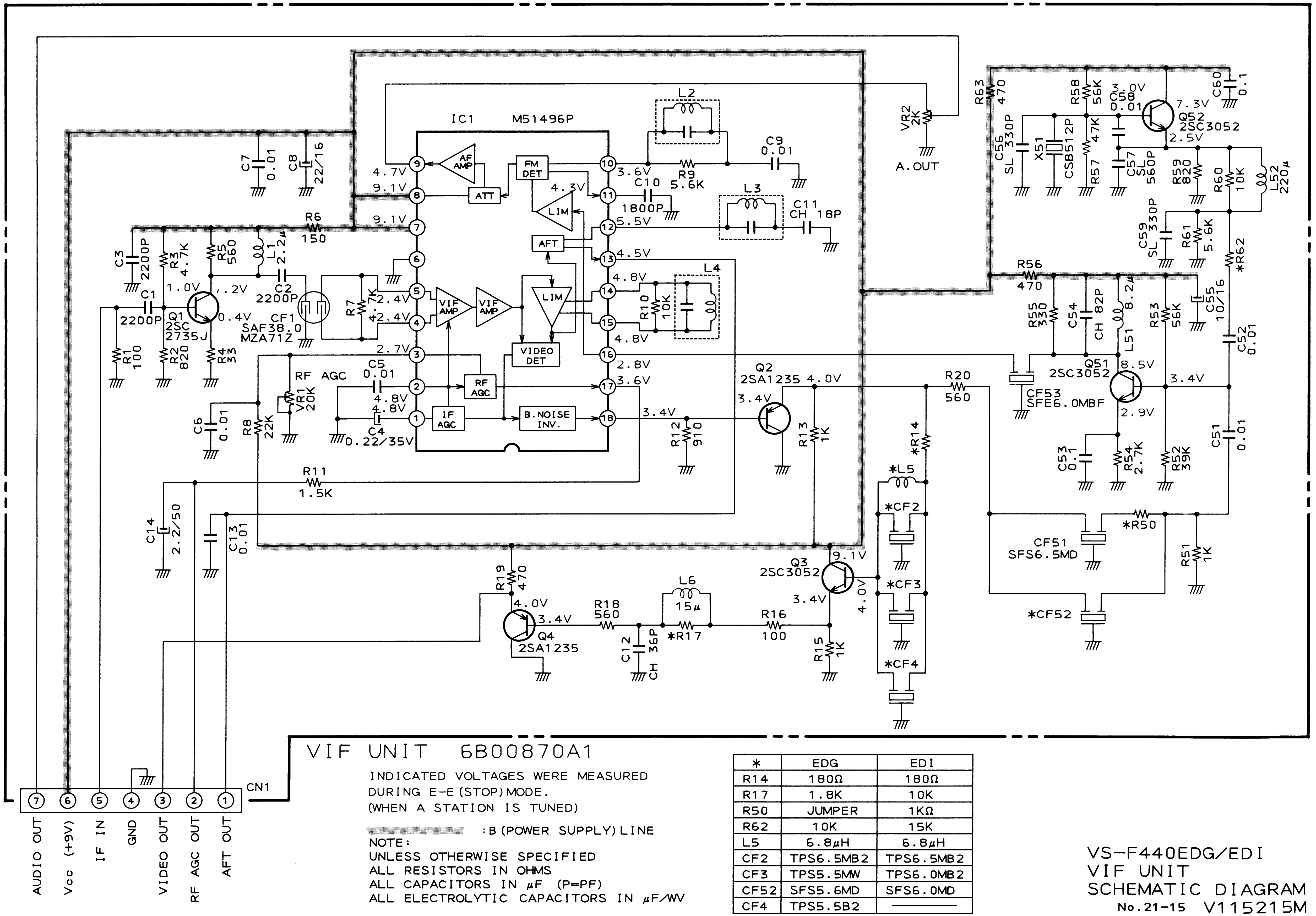
VIF UNIT 6C02413A1
(E0.E0G-V ONLY)


C59
R61
C53
R52
R51
R50
CF51
L52
R62
R69
C57
R57
C56
C52
R54
C51
CF52
R60
R53
C58
Q52
R63
R56
C60
L51
Q51
CF54
R59
L2
L3
L4
R13
R20
Q2
C55
C11
R10
CF53
C9
R9
C10
VR2
10
15
18
C13
IC1
C6
C5
R11
R12
C8
C7
R8
R7
9
5
1
L1
R6
R5
C2
CF1
CF2
Q3
R15
R16
R14
CF3
C4
Q1
VR1
R3
CF4
L6
R4
R18
C12
R19
L5
R2
Q4
R1
CN1
C1
7
5
1
C14

VIF UNIT 6B00870A1
(ED1.EDG ONLY)


COLLECTOR
BASE
EMITTER

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.


IC1 M51496P
AF AMP
FM DET
ATT
LIM
AFT
VIF AMP
VIDEO DET
RF AGC
IF AGC
B.NOISE INV.
L2
C9 0.01
R9 5.6K
C10 1800P
L3
C11 CH 18P
L4
R10 10K
C7 0.01
C8 22/16
R6 150
C3 2200P
R3 4.7K
R5 560
L1 2.2μ
C2 2200P
CF1 SAF38.0 MZA71Z
R7 4.7K
C1 2200P
Q1 2SC2735J
R1 100
R2 820
R4 33
RF AGC
VR1 20K
C5 0.01
C4 0.22/35V
C6 0.01
R8 22K
R11 1.5K
C14 2.2/50
C13 0.01
R12 910
Q2 2SA1235
R13 1K
R19 470
Q4 2SA1235
R18 560
L6 15μ
*R17
C12 CH 36P
R16 100
R15 1K
Q3 2SC3052
VR2 2K
A.OUT
R63 470
R58 56K
C58 0.01
Q52 2SC3052
C60 0.1
C56 SL 330P
X51 CSB512P
R57 47K
C57 SL 560P
R59 820
R60 10K
L52 220μ
C59 SL 330P
R61 5.6K
*R62
R56 470
R55 330
C54 CH 82P
L51 8.2μ
R53 56K
C55 10/16
C52 0.01
R20 560
CF53 SFE6.0MBF
Q51 2SC3052
*R14
*L5
*CF2
*CF3
*CF4
C53 0.1
R54 2.7K
R52 39K
C51 0.01
CF51 SFS6.5MD
*R50
R51 1K
*CF52
CN1
AUDIO OUT
Vcc (+9V)
IF IN
GND
VIDEO OUT
RF AGC OUT
AFT OUT

VIF UNIT 6B00870A1

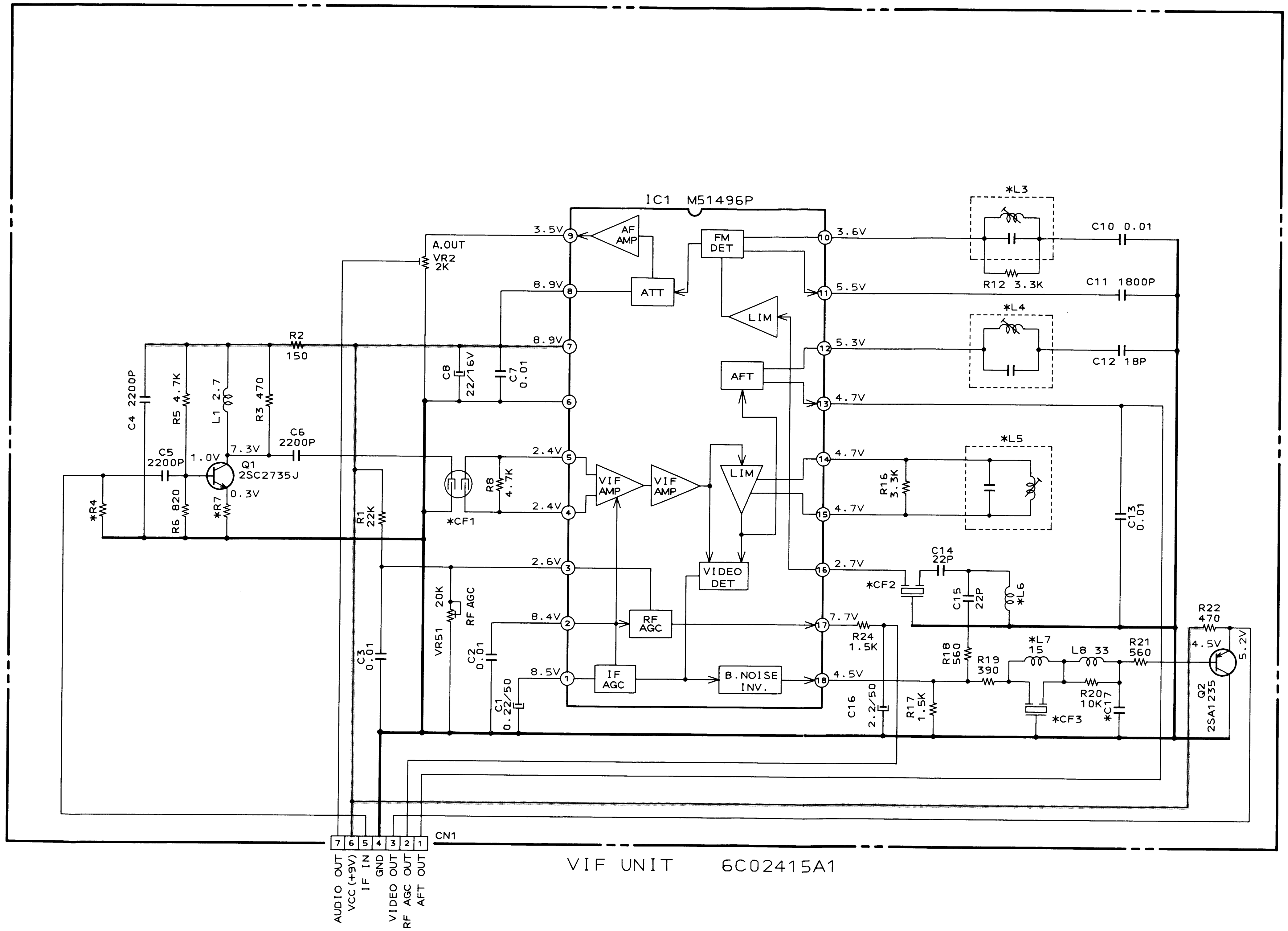
INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(WHEN A STATION IS TUNED)

▨ :B (POWER SUPPLY) LINE

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV

*	EDG	EDI
R14	180Ω	180Ω
R17	1.8K	10K
R50	JUMPER	1KΩ
R62	10K	15K
L5	6.8μH	6.8μH
CF2	TPS6.5MB2	TPS6.5MB2
CF3	TPS5.5MW	TPS6.0MB2
CF52	SFS5.6MD	SFS6.0MD
CF4	TPS5.5B2	———

VS-F440EDG/EDI
VIF UNIT
SCHEMATIC DIAGRAM
No.21-15 V115215M
A3


IC1 M51496P
AF AMP
ATT
FM DET
LIM
AFT
VIF AMP
VIF AMP
LIM
VIDEO DET
RF AGC
IF AGC
B.NOISE INV.
3.5V
8.9V
8.9V
2.4V
2.4V
2.6V
8.4V
8.5V
3.6V
5.5V
5.3V
4.7V
4.7V
4.7V
2.7V
7.7V
4.5V
A.OUT
VR2 2K
R2 150
C4 2200P
R5 4.7K
L1 2.7
R3 470
C6 2200P
C5 2200P
1.0V
7.3V
Q1 2SC2735J
0.3V
R6 820
*R7
*R4
C8 22/16V
C7 0.01
*CF1
R8 4.7K
R1 22K
C3 0.01
20K
VR51
RF AGC
C2 0.01
C1 0.22/50
*L3
C10 0.01
R12 3.3K
C11 1800P
*L4
C12 18P
*L5
R16 3.3K
C13 0.01
C14 22P
*CF2
C15 22P
*L6
R24 1.5K
R18 560
R19 390
*L7 15
L8 33
R21 560
R207 10K
*C17
*CF3
C16 2.2/50
R17 1.5K
R22 470
4.5V
5.2V
Q2 2SA1235
CN1
7 6 5 4 3 2 1
AUDIO OUT
VCC(+9V)
IF IN
GND
VIDEO OUT
RF AGC OUT
AFT OUT

VIF UNIT 6C02415A1

※	EM	EOH	EA	ES
CF1	SAF38.9 MZ70Z	SAF38.9 MZW70Z	SAF36.9 MZ70Z	SAF38.5 MZ70Z
CF2	SFE 5.5MBF	←	←	SFE 6.0MBF
CF3	TPS 5.5MB2	TPS 5.5MW	←	TPS 6.0MB2
L 3	6F16263 A2	←	←	6F16263 A3
L 4	6F16215 MZ70Z	←	6F16115 B3	6F16215 A1
L 5	6F16346 A1	←	6F16113 A1	6F16346 A1
L 6	18μ	←	←	15μ
L 7	18μ	15μ	18μ	15μ
R 4	100	100	150	100
R 7	22	←	←	15
R16	10K	—	10K	10K
C17	CH12P	←	←	CH15P

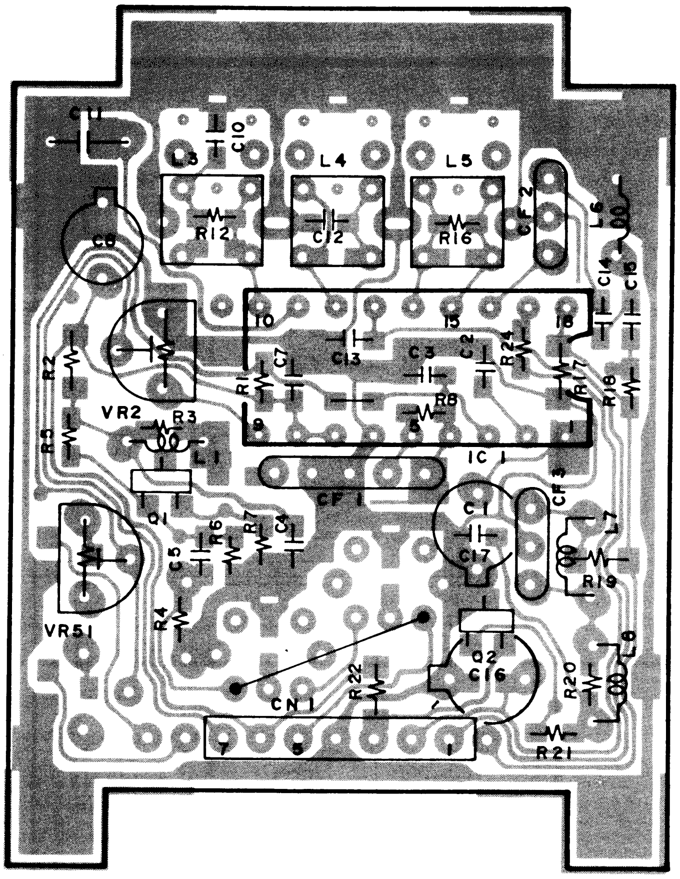
*	EK, EK-V
CF1	SAF39.5MZ70Z
CF2	SFE6.0MBF
CF3	TPS6.0MB2
L3	6F16263A3
L4	6F16215A1
L5	6F16346A1
L6	15μ
L7	15μ
R4	180
R7	22μ
R16	10K
C17	CH15P

▬ B (POWER SUPPLY) LINE

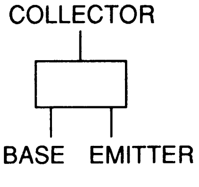
INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.

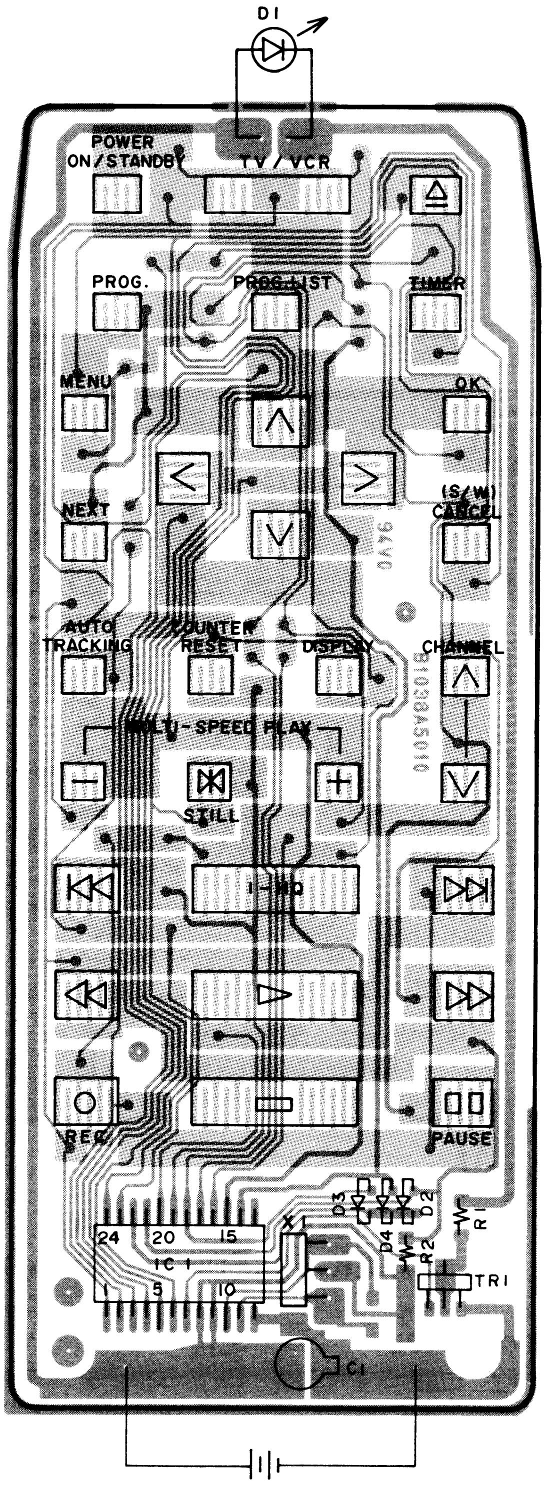
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH (K)

VS-F440EA/EM/EK/EOH
VS-F441EA, F450EOH
VS-F455EOH, F480EK-V
VS-F490EM/ES/EOH
VS-F497EOH
VIF UNIT
SCHEMATIC DIAGRAM
No.21-16 V115216M
A3

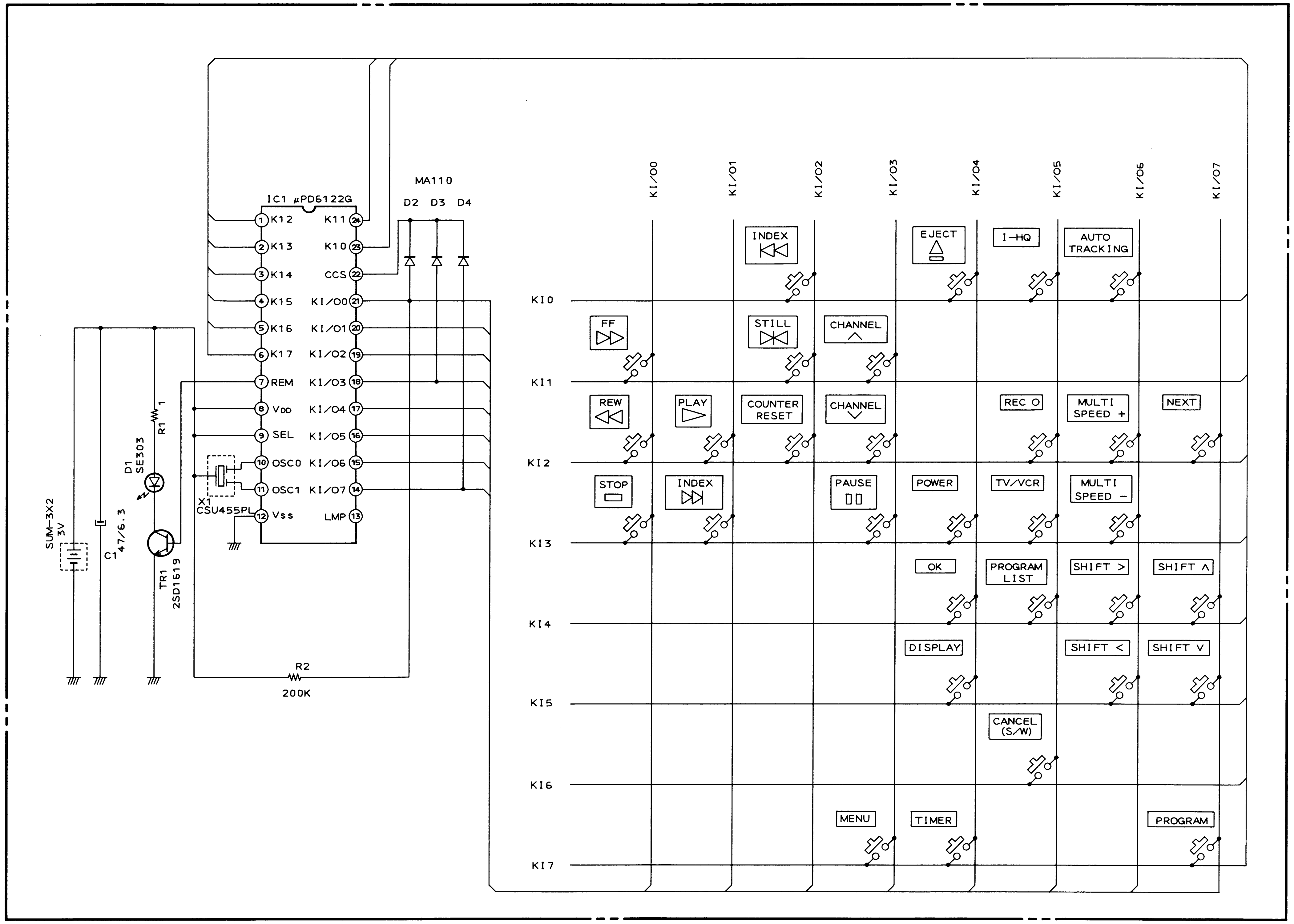

C11
C10
L3
L4
L5
R12
C12
R16
CF2
L6
C8
C14
C15
10
15
18
C13
C3
C2
R24
R2
C7
R1
R17
R18
VR2
R3
R8
9
5
1
R5
L1
IC1
CF1
CF3
Q1
C1
R6
R7
C4
L7
C5
C17
R19
VR51
R4
Q2
C16
R22
R20
L8
CN1
7
5
1
R21

VIF UNIT 6C02415A1
(EA.EK.EM.E0H.ES ONLY)


COLLECTOR
BASE
EMITTER


D1
POWER
ON/STANDBY
TV/VCR
PROG.
PROG.LIST
TIMER
MENU
OK
NEXT
(S/W)
CANCEL
AUTO
TRACKING
COUNTER
RESET
DISPLAY
CHANNEL
MULTI-SPEED PLAY
STILL
I-NO
REC
PAUSE
B1038A5010
94V0
D3
D4
D2
R2
R1
X1
TR1
IC1
24
20
15
1
5
10
C1
1.5 x 2

REMO-CON PCB B1038A5010

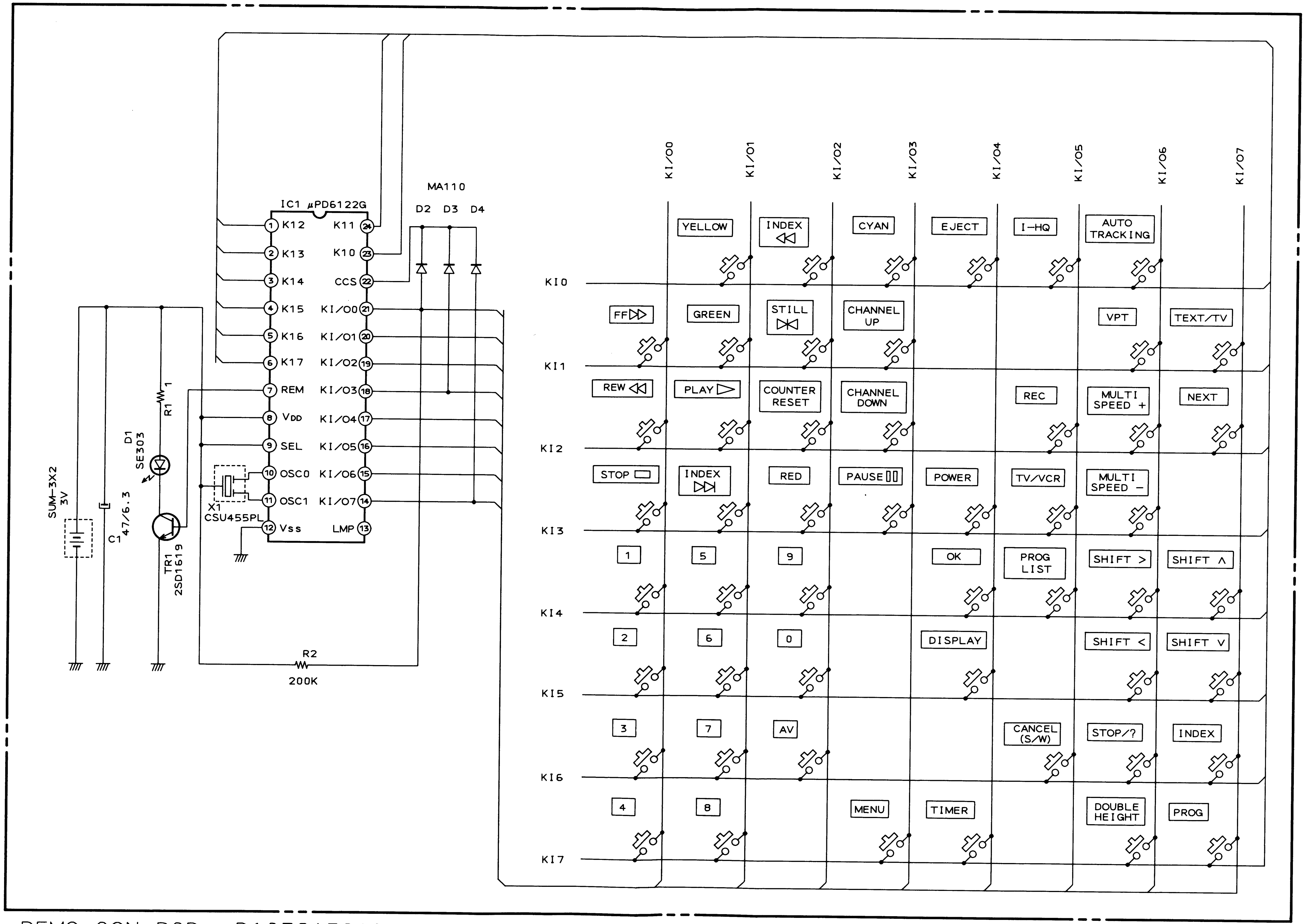

IC1 μPD6122G
K12
K13
K14
K15
K16
K17
REM
VDD
SEL
OSC0
OSC1
Vss
K11
K10
CCS
KI/O0
KI/O1
KI/O2
KI/O3
KI/O4
KI/O5
KI/O6
KI/O7
LMP
MA110
D2 D3 D4
X1
CSU455PL
R1 1
D1 SE303
TR1 2SD1619
C1 47/6.3
SUM-3X2 3V
R2
200K
KI0
KI1
KI2
KI3
KI4
KI5
KI6
KI7
KI/O0
KI/O1
KI/O2
KI/O3
KI/O4
KI/O5
KI/O6
KI/O7
INDEX
EJECT
I-HQ
AUTO TRACKING
FF
STILL
CHANNEL ∧
REW
PLAY
COUNTER RESET
CHANNEL ∨
REC O
MULTI SPEED +
NEXT
STOP
INDEX
PAUSE
POWER
TV/VCR
MULTI SPEED −
OK
PROGRAM LIST
SHIFT >
SHIFT ∧
DISPLAY
SHIFT <
SHIFT V
CANCEL (S/W)
MENU
TIMER
PROGRAM

REMO-CON PCB B1038A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μF

RC-V250E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM

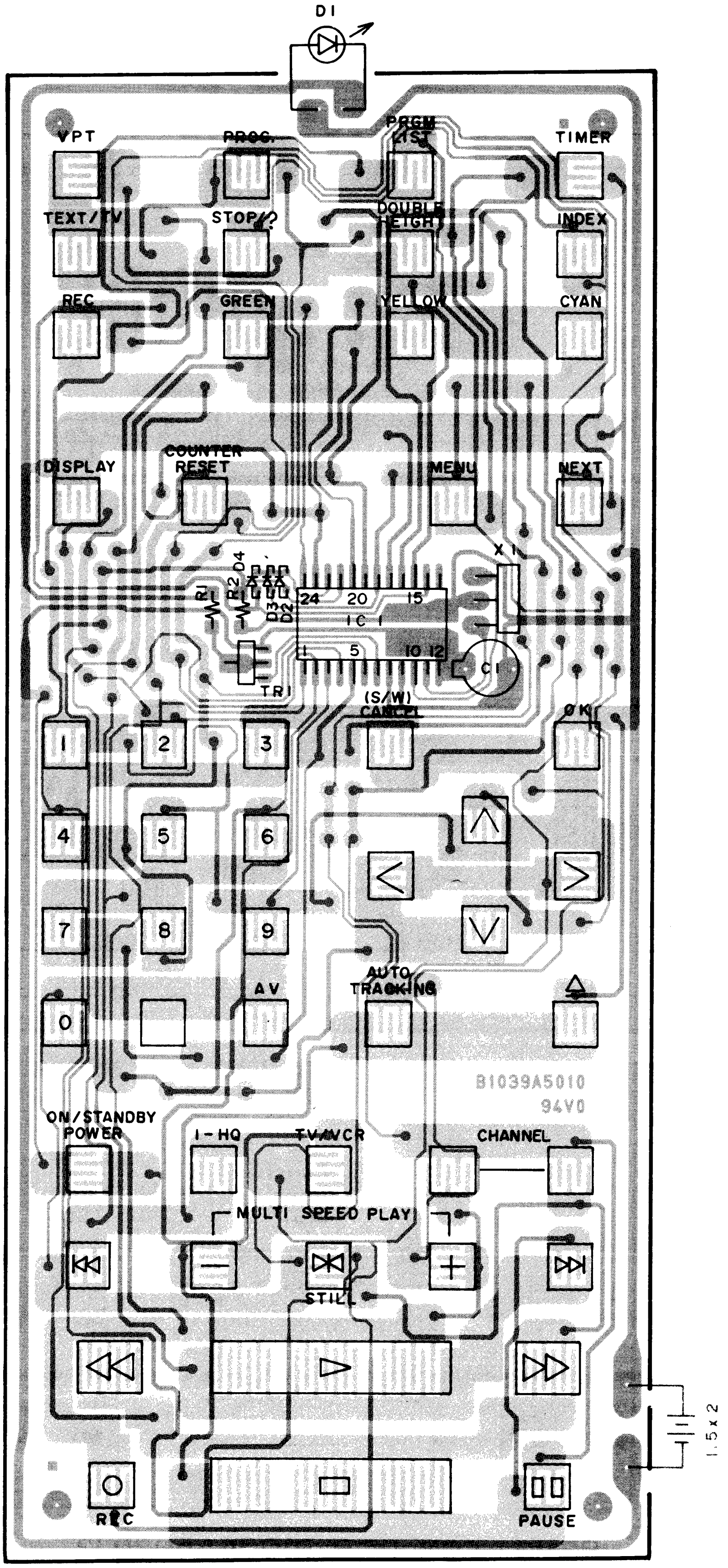
No.21-17 B103802M
A2


IC1 μPD6122G
K12
K13
K14
K15
K16
K17
REM
VDD
SEL
OSC0
OSC1
Vss
K11
K10
CCS
KI/O0
KI/O1
KI/O2
KI/O3
KI/O4
KI/O5
KI/O6
KI/O7
LMP
MA110
D2 D3 D4
X1
CSU455PL
R1 1
D1
SE303
TR1
2SD1619
C1
47/6.3
SUM-3X2
3V
R2
200K
KI0
KI1
KI2
KI3
KI4
KI5
KI6
KI7
YELLOW
INDEX ◁◁
CYAN
EJECT
I-HQ
AUTO TRACKING
FF▷▷
GREEN
STILL ▷◁
CHANNEL UP
VPT
TEXT/TV
REW ◁◁
PLAY ▷
COUNTER RESET
CHANNEL DOWN
REC
MULTI SPEED +
NEXT
STOP □
INDEX ▷▷
RED
PAUSE ▯▯
POWER
TV/VCR
MULTI SPEED −
1
5
9
OK
PROG LIST
SHIFT >
SHIFT ∧
2
6
0
DISPLAY
SHIFT <
SHIFT V
3
7
AV
CANCEL (S/W)
STOP/?
INDEX
4
8
MENU
TIMER
DOUBLE HEIGHT
PROG

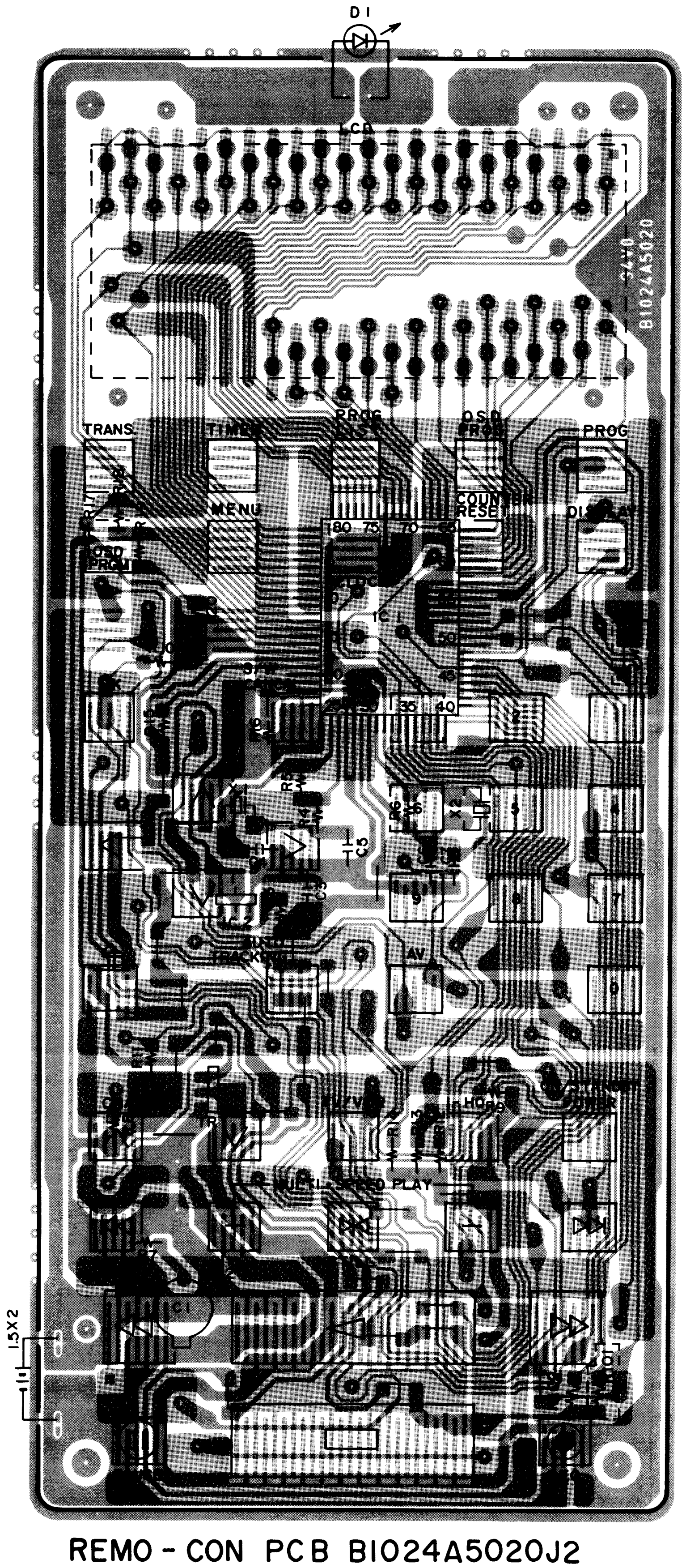
REMO-CON PCB B1039A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)

RC-V251G
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No.21-18 B103902M
A2

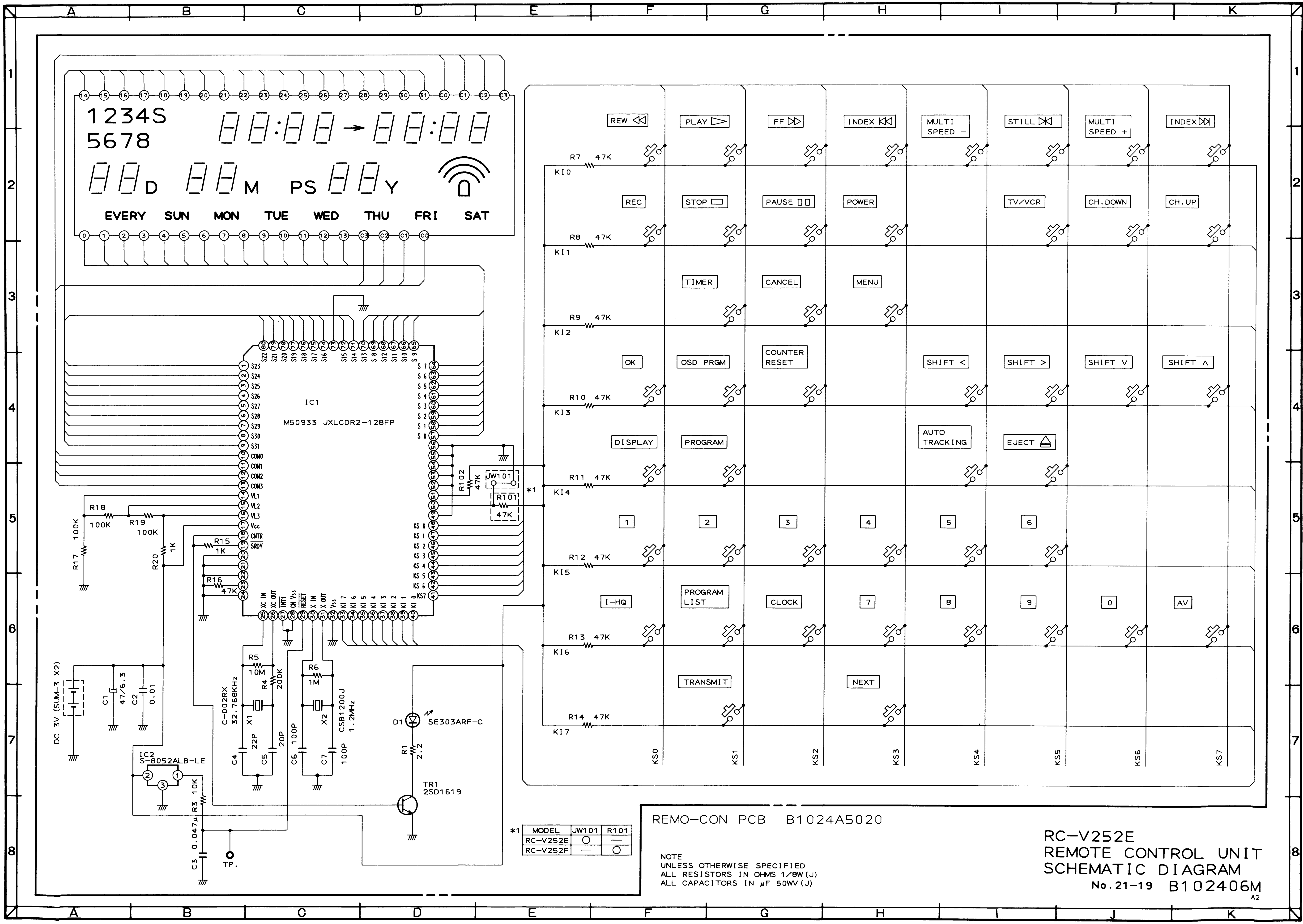

D1
VPT
PROG.
PRGM LIST
TIMER
TEXT/TV
STOP/?
DOUBLE HEIGHT
INDEX
REC
GREEN
YELLOW
CYAN
DISPLAY
COUNTER RESET
MENU
NEXT
X1
R1
R2
D4
D3
D2
24
20
15
IC1
1
5
10
12
C1
TR1
(S/W) CANCEL
OK
1
2
3
4
5
6
7
8
9
0
AV
AUTO TRACKING
B1039A5010
94V0
ON/STANDBY POWER
I-HQ
TV/VCR
CHANNEL
MULTI SPEED PLAY
STILL
REC
PAUSE
1.5x2

REMO-CON PCB B1039A5010


D1
LCD
B1024A5020
TRANS.
TIMER
PROG LIST
OSD PROG
PROG
MENU
COUNTER RESET
DISPLAY
OSD PROG
IC1
80
75
70
65
50
45
40
35
25
AV
AUTO TRACKING
TV/VCR
MULTI-SPEED PLAY
ON/STANDBY POWER
C5
C3
1.5X2

REMO - CON PCB BI024A5020J2

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.

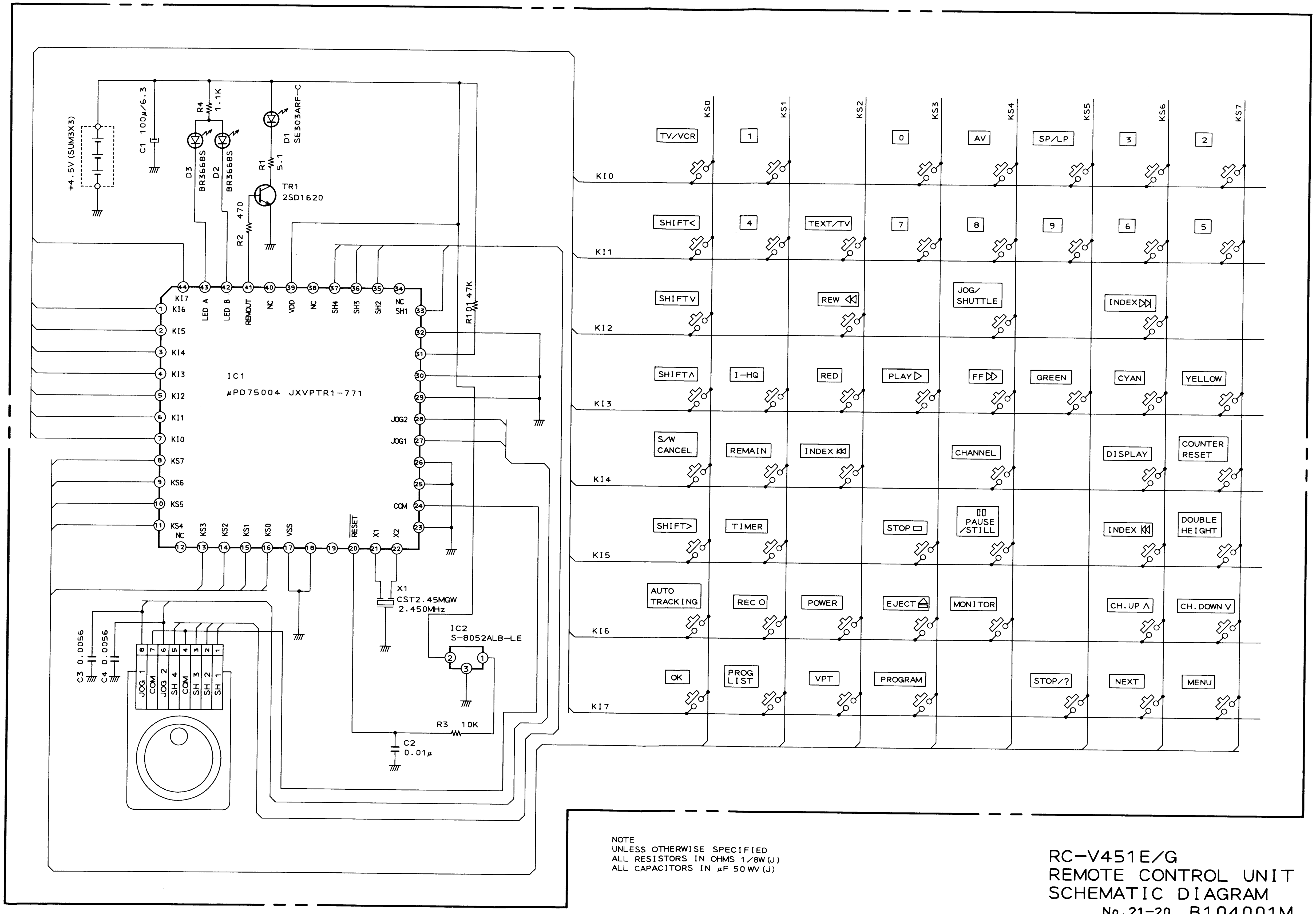

1234S
5678
EVERY SUN MON TUE WED THU FRI SAT
IC1
M50933 JXLCDR2-128FP
R18 100K
R19 100K
R17 100K
R20 1K
R15 1K
R16 47K
R102 47K
JW101
R101 47K
*1
DC 3V (SUM-3 X2)
C1 47/6.3
C2 0.01
IC2 S-8052ALB-LE
R3 10K
C3 0.047μ
TP.
R5 10M
R4 200K
C-002RX 32.768KHz
X1
C4 22P
C5 20P
R6 1M
X2
CSB1200J 1.2MHz
C6 100P
C7 100P
D1
SE303ARF-C
R1 2.2
TR1 2SD1619
R7 47K
KI0
R8 47K
KI1
R9 47K
KI2
R10 47K
KI3
R11 47K
KI4
R12 47K
KI5
R13 47K
KI6
R14 47K
KI7
KS0
KS1
KS2
KS3
KS4
KS5
KS6
KS7
REW
PLAY
FF
INDEX
MULTI SPEED −
STILL
MULTI SPEED +
INDEX
REC
STOP
PAUSE
POWER
TV/VCR
CH.DOWN
CH.UP
TIMER
CANCEL
MENU
OK
OSD PRGM
COUNTER RESET
SHIFT <
SHIFT >
SHIFT V
SHIFT Λ
DISPLAY
PROGRAM
AUTO TRACKING
EJECT
1
2
3
4
5
6
I-HQ
PROGRAM LIST
CLOCK
7
8
9
0
AV
TRANSMIT
NEXT
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8

*1 MODEL	JW101	R101
RC-V252E	○	—
RC-V252F	—	○

REMO-CON PCB B1024A5020

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50WV (J)

RC-V252E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No.21-19 B102406M
A2

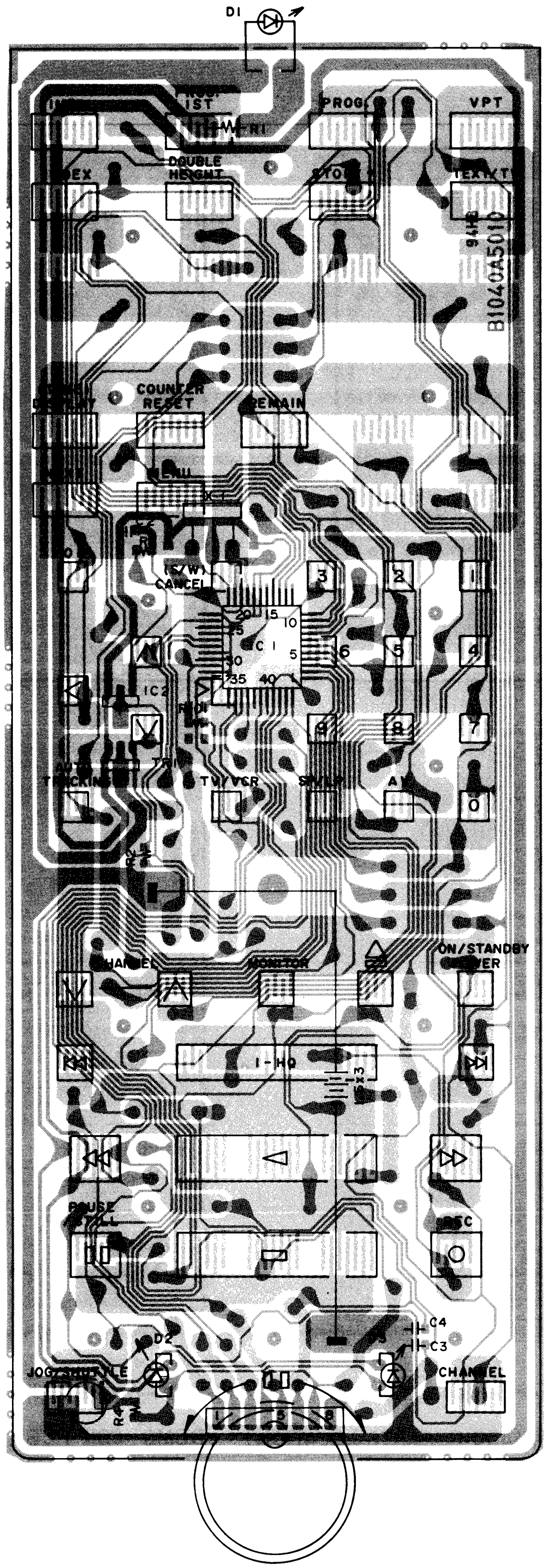

+4.5V (SUM3X3)
C1 100µ/6.3
R4 1.1K
D3 BR3668S
D2 BR3668S
D1 SE303ARF-C
R1 5.1
TR1 2SD1620
R2 470
R10 47K
IC1
µPD75004 JXVPTR1-771
KI7
KI6
KI5
KI4
KI3
KI2
KI1
KI0
KS7
KS6
KS5
KS4
NC
KS3
KS2
KS1
KS0
VSS
RESET
X1
X2
LED A
LED B
REMOUT
VDD
SH4
SH3
SH2
SH1
JOG2
JOG1
COM
X1
CST2.45MGW
2.450MHz
IC2
S-8052ALB-LE
R3 10K
C2 0.01µ
C3 0.0056
C4 0.0056
JOG 1
COM
JOG 2
SH 4
COM
SH 3
SH 2
SH 1
TV/VCR
1
0
AV
SP/LP
3
2
SHIFT<
4
TEXT/TV
7
8
9
6
5
SHIFTV
REW
JOG/SHUTTLE
INDEX
SHIFTΛ
I-HQ
RED
PLAY
FF
GREEN
CYAN
YELLOW
S/W CANCEL
REMAIN
INDEX
CHANNEL
DISPLAY
COUNTER RESET
SHIFT>
TIMER
STOP
PAUSE /STILL
INDEX
DOUBLE HEIGHT
AUTO TRACKING
REC
POWER
EJECT
MONITOR
CH.UP Λ
CH.DOWN V
OK
PROG LIST
VPT
PROGRAM
STOP/?
NEXT
MENU

REMO-CON PCB B1040A5010

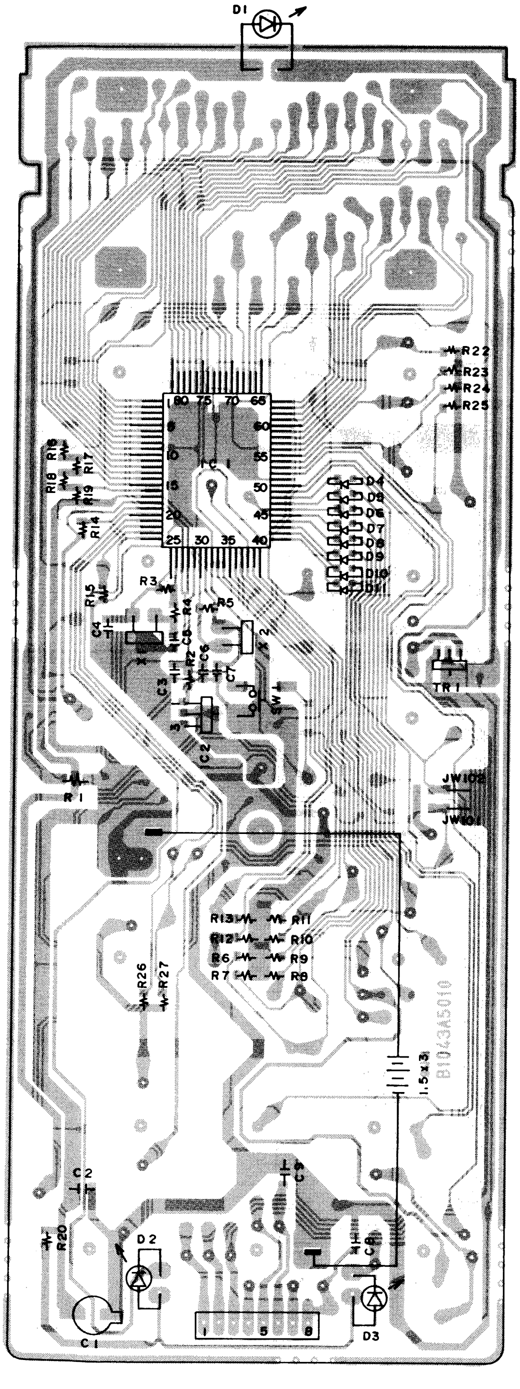
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 50WV (J)

RC-V451E/G
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM

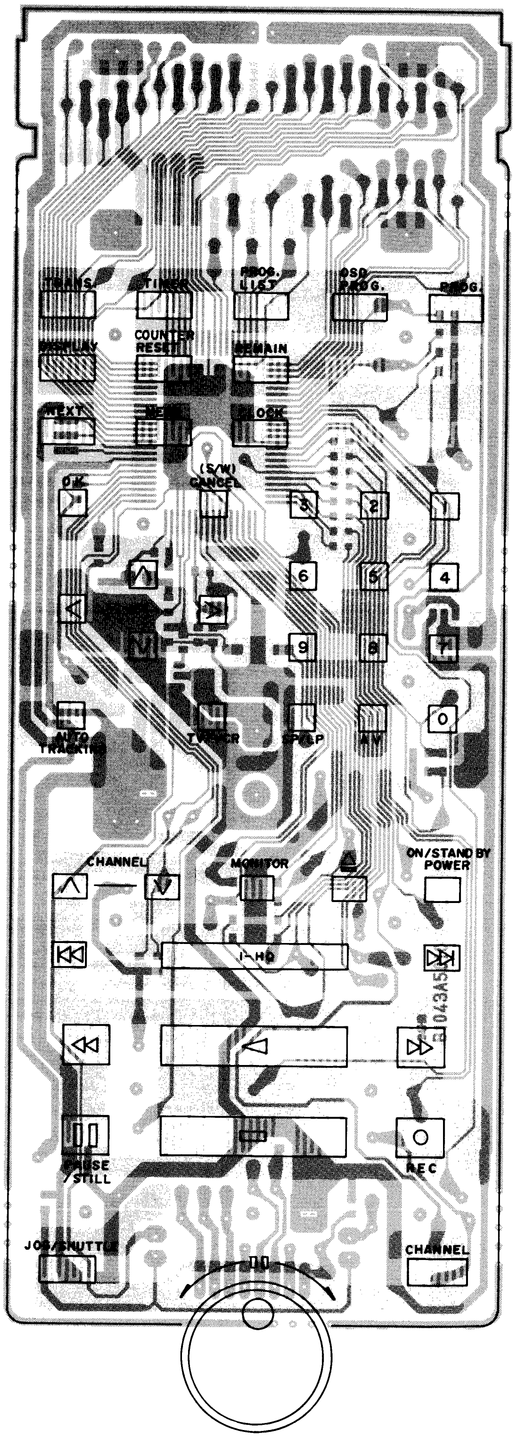
No.21-20 B104001M
A2


D1
PROG.
VPT
DOUBLE HEIGHT
STORE
94HB
B1040A5010
COUNTER RESET
REMAIN
MENU
(S/W) CANCEL
IC1
IC2
3
2
1
6
5
4
9
8
7
0
TV/VCR
AV
ON/STANDBY POWER
MONITOR
CHANNEL
I-HQ
REC
C4
C3
D2
JOG/SHUTTLE
CHANNEL
1
5
8

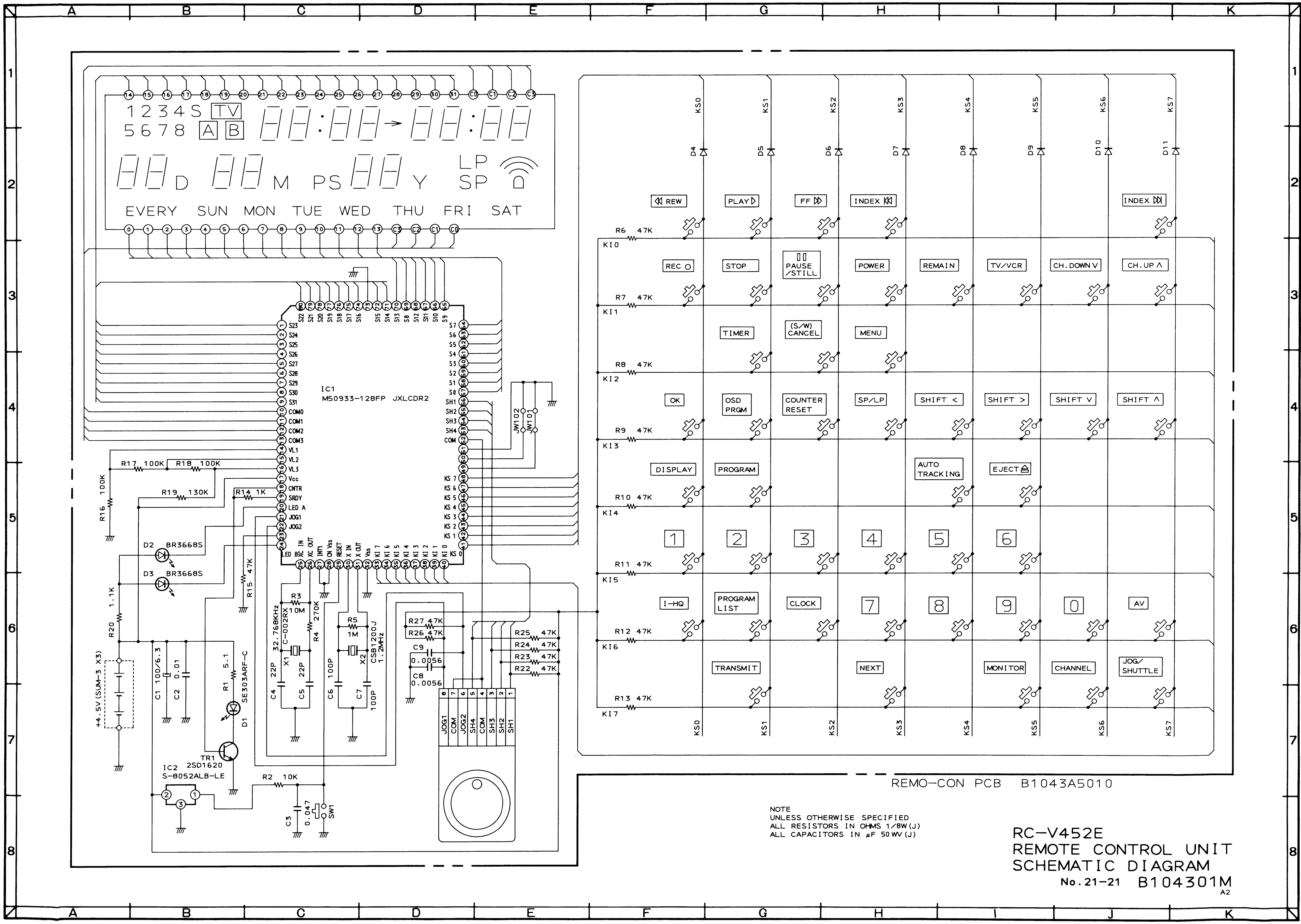
REMO-CON PCB B1040A5010


D1
R22
R23
R24
R25
IC1
1
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
R16
R17
R18
R19
R14
D4
D5
D6
D7
D8
D9
D10
D11
R3
R4
R5
R15
C4
R2
C6
C7
X1
X2
C3
C2
SW1
TR1
JW102
JW101
R1
R13
R11
R12
R10
R6
R9
R7
R8
R26
R27
B1043A5010
1.5x3
C2
C9
R20
D2
C8
C1
1
5
8
D3

REMO-CON PCB B1043A5010 (PARTS LOCATION)


TRANS
TIMER
PROG. LIST
OSD PROG.
PROG.
DISPLAY
COUNTER RESET
REMAIN
NEXT
MENU
CLOCK
OK
(S/W) CANCEL
3
2
1
6
5
4
9
8
7
0
AUTO TRACKING
TV/VCR
SP/LP
AV
CHANNEL
MONITOR
ON/STAND BY POWER
B1043A5
PAUSE/STILL
REC
JOG/SHUTTLE
CHANNEL

REMO-CON PCB B1043A5010 (SWITCH LOCATION)

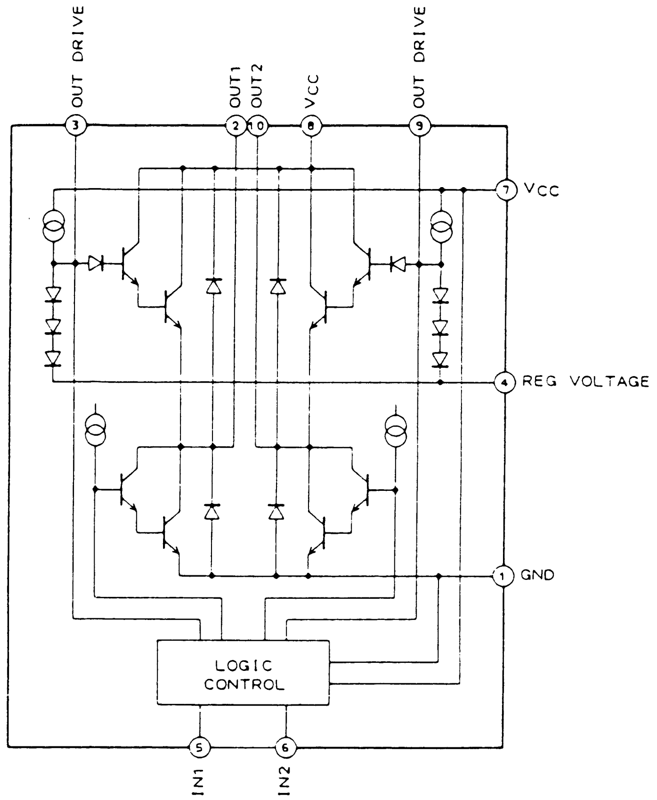


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
1 2 3 4 S TV
5 6 7 8 A B
D M PS Y LP SP
EVERY SUN MON TUE WED THU FRI SAT
IC1
M50933-128FP JXLCDR2
S23
S24
S25
S26
S27
S28
S29
S30
S31
COM0
COM1
COM2
COM3
VL1
VL2
VL3
Vcc
CNTR
SRDY
LED A
JOG1
JOG2
LED B
XC IN
XC OUT
INT1
CN Vss
RESET
X IN
X OUT
Vss
KI 7
KI 6
KI 5
KI 4
KI 3
KI 2
KI 1
KI 0
KS 0
KS 1
KS 2
KS 3
KS 4
KS 5
KS 6
KS 7
COM
SH1
SH2
SH3
SH4
S0
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
JW102
JW101
R17 100K
R18 100K
R16 100K
R19 130K
R14 1K
D2 BR3668S
D3 BR3668S
R15 47K
R20 1.1K
+4.5V (SUM-3 X3)
C1 100/6.3
C2 0.01
R1 5.1
D1 SE303ARF-C
TR1 2SD1620
IC2 S-8052ALB-LE
R2 10K
C3 0.047
SW1
R3 10M
R4 270K
X1 32.768KHz C-002RX
C4 22P
C5 22P
R5 1M
X2 CSB1200J 1.2MHz
C6 100P
C7 100P
R27 47K
R26 47K
C9 0.0056
C8 0.0056
R25 47K
R24 47K
R23 47K
R22 47K
JOG1
COM
JOG2
SH4
COM
SH3
SH2
SH1
KS0
KS1
KS2
KS3
KS4
KS5
KS6
KS7
D4
D5
D6
D7
D8
D9
D10
D11
R6 47K
R7 47K
R8 47K
R9 47K
R10 47K
R11 47K
R12 47K
R13 47K
KI0
KI1
KI2
KI3
KI4
KI5
KI6
KI7
REW
PLAY
FF
INDEX
INDEX
REC
STOP
PAUSE /STILL
POWER
REMAIN
TV/VCR
CH.DOWN V
CH.UP Λ
TIMER
(S/W) CANCEL
MENU
OK
OSD PRGM
COUNTER RESET
SP/LP
SHIFT <
SHIFT >
SHIFT V
SHIFT Λ
DISPLAY
PROGRAM
AUTO TRACKING
EJECT
1
2
3
4
5
6
I-HQ
PROGRAM LIST
CLOCK
7
8
9
0
AV
TRANSMIT
NEXT
MONITOR
CHANNEL
JOG/ SHUTTLE
REMO-CON PCB B1043A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50WV (J)

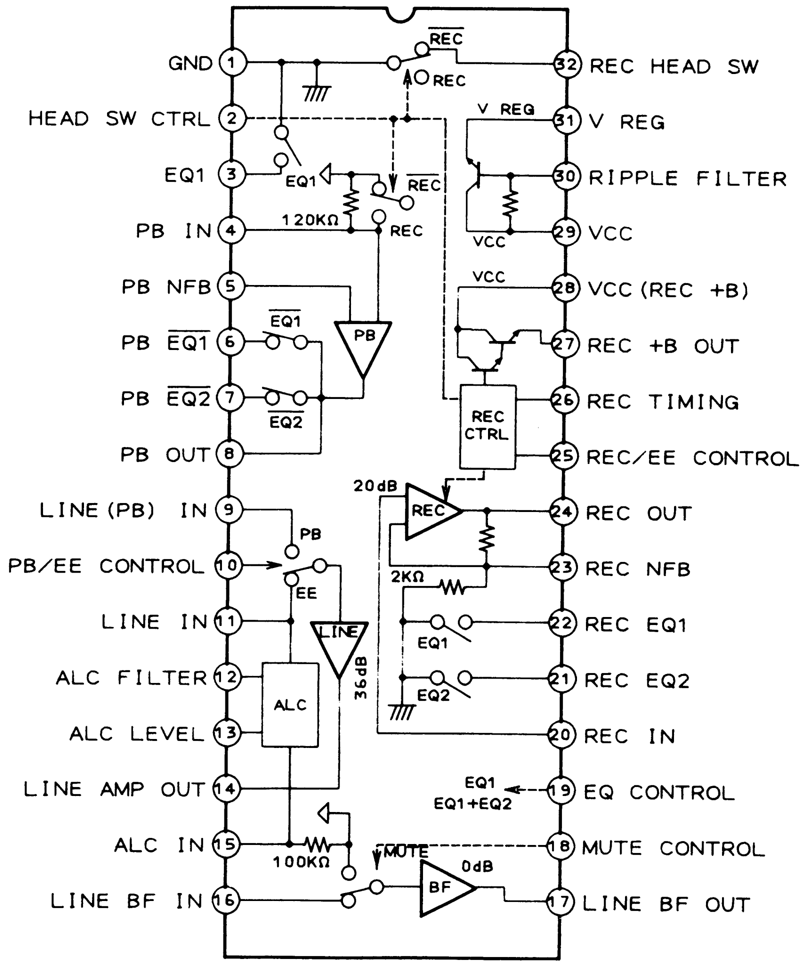
RC-V452E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No.21-21 B104301M
A2

BA6229 (BI-DIRECTIONAL MOTOR DRIVE)

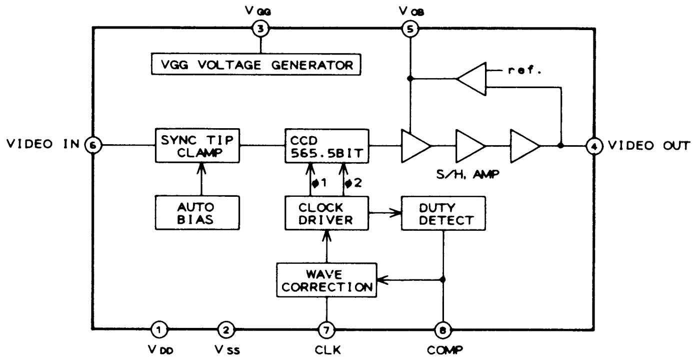

OUT DRIVE
OUT1
OUT2
VCC
OUT DRIVE
3
2
10
8
9
7 VCC
4 REG VOLTAGE
1 GND
LOGIC CONTROL
5
6
IN1
IN2

INPUT		OUTPUT		MODE
⑤	⑥	②	⑩	
H	H	L	L	BRAKE
L	H	L	H	CASSETTE & TAPE LOADING
H	L	H	L	CASSETTE & TAPE UNLOADING
L	L	OPEN	OPEN	STOP

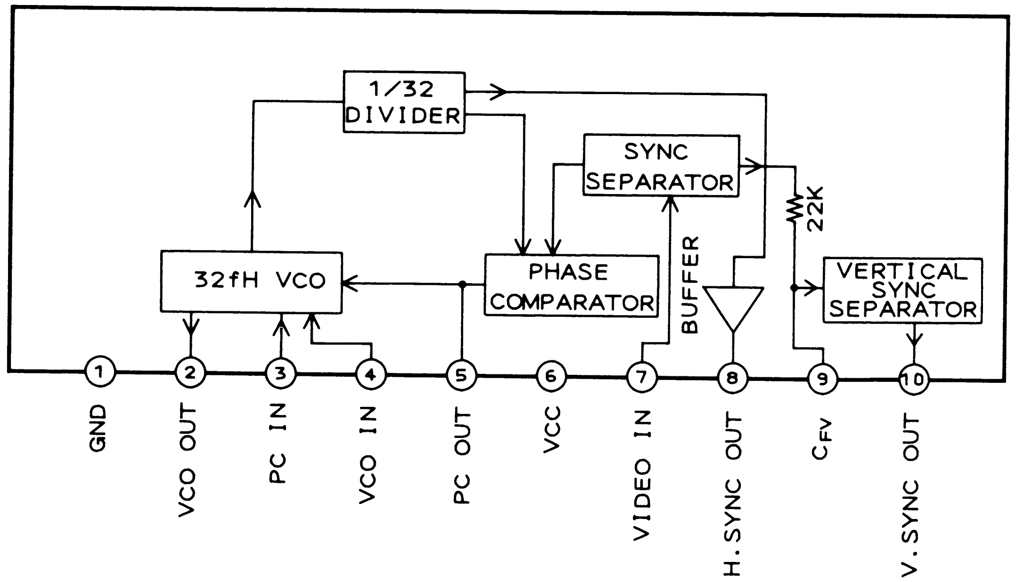
BA7765AS (AUDIO SIGNAL REC/PB AMPLIFIER)


GND 1
HEAD SW CTRL 2
EQ1 3
PB IN 4
PB NFB 5
PB EQ1 6
PB EQ2 7
PB OUT 8
LINE (PB) IN 9
PB/EE CONTROL 10
LINE IN 11
ALC FILTER 12
ALC LEVEL 13
LINE AMP OUT 14
ALC IN 15
LINE BF IN 16
32 REC HEAD SW
31 V REG
30 RIPPLE FILTER
29 VCC
28 VCC (REC +B)
27 REC +B OUT
26 REC TIMING
25 REC/EE CONTROL
24 REC OUT
23 REC NFB
22 REC EQ1
21 REC EQ2
20 REC IN
19 EQ CONTROL
18 MUTE CONTROL
17 LINE BF OUT
REC
REC
V REG
EQ1
REC
120KΩ
REC
VCC
VCC
EQ1
PB
EQ2
REC CTRL
20dB
REC
PB
EE
2KΩ
LINE
EQ1
36dB
EQ2
ALC
EQ1
EQ1+EQ2
100KΩ
MUTE
0dB
BF

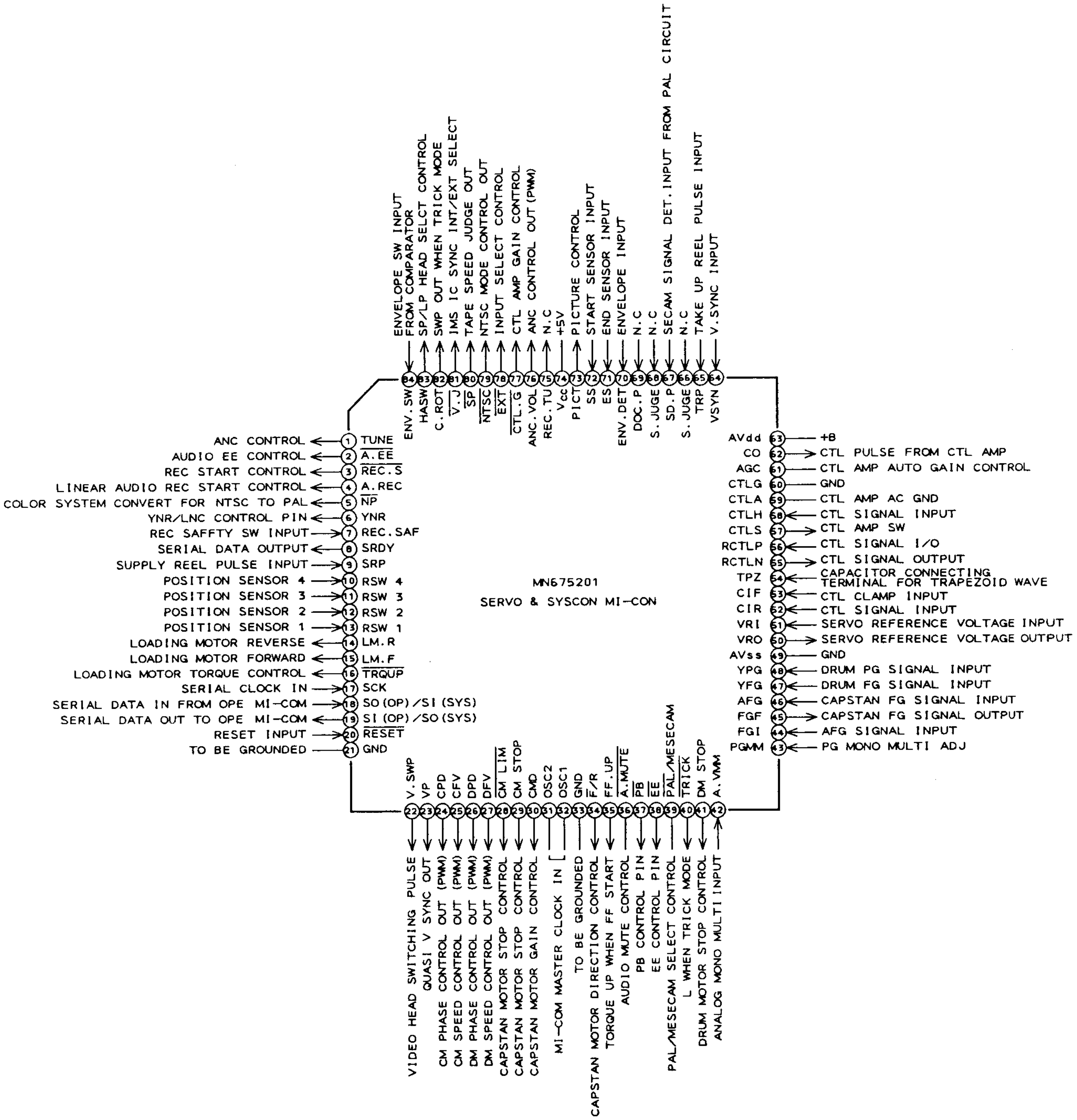
LC8992 (CCD 1H DELAY LINE)


VGG
VOB
3
5
VGG VOLTAGE GENERATOR
ref.
VIDEO IN 6
SYNC TIP CLAMP
CCD 565.5BIT
ϕ1
ϕ2
S/H, AMP
4 VIDEO OUT
AUTO BIAS
CLOCK DRIVER
DUTY DETECT
WAVE CORRECTION
1
2
7
8
VDD
VSS
CLK
COMP

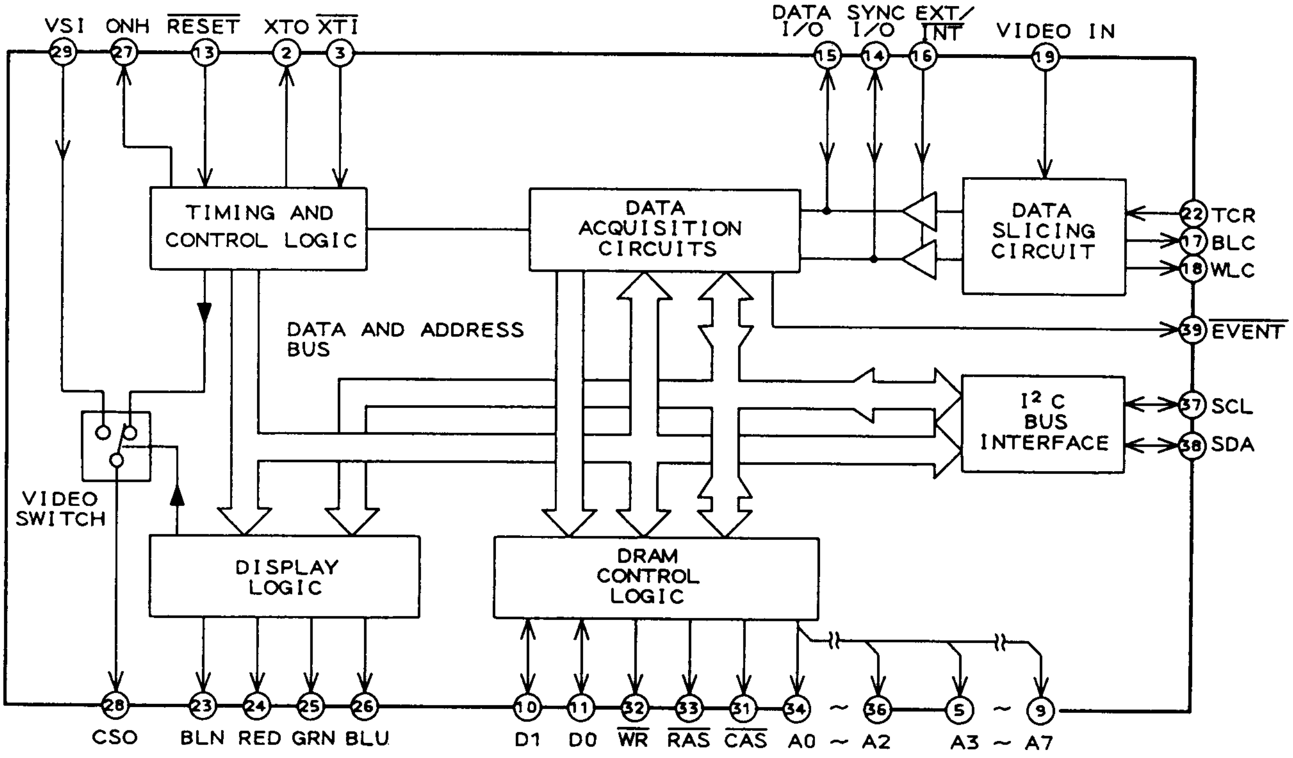
MM1068XS (SYNC SEPARATOR)


1/32 DIVIDER
SYNC SEPARATOR
22K
32fH VCO
PHASE COMPARATOR
BUFFER
VERTICAL SYNC SEPARATOR
1 GND
2 VCO OUT
3 PC IN
4 VCO IN
5 PC OUT
6 VCC
7 VIDEO IN
8 H.SYNC OUT
9 CFV
10 V.SYNC OUT

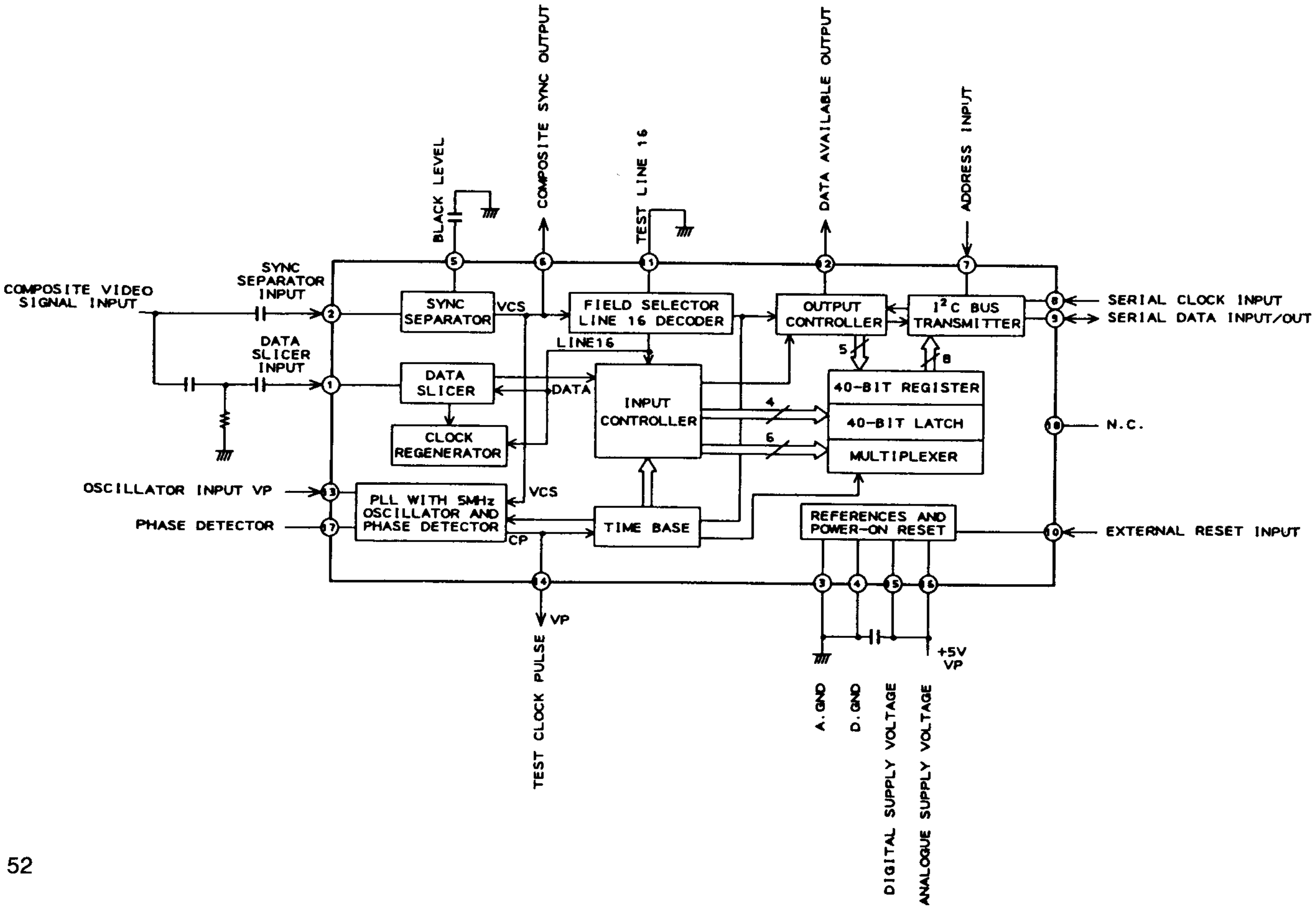
MN675201 (SERVO/SYSCON MI-COM)


MN675201
SERVO & SYSCON MI-CON
ANC CONTROL 1 TUNE
AUDIO EE CONTROL 2 A.EE
REC START CONTROL 3 REC.S
LINEAR AUDIO REC START CONTROL 4 A.REC
COLOR SYSTEM CONVERT FOR NTSC TO PAL 5 NP
YNR/LNC CONTROL PIN 6 YNR
REC SAFFTY SW INPUT 7 REC.SAF
SERIAL DATA OUTPUT 8 SRDY
SUPPLY REEL PULSE INPUT 9 SRP
POSITION SENSOR 4 10 RSW 4
POSITION SENSOR 3 11 RSW 3
POSITION SENSOR 2 12 RSW 2
POSITION SENSOR 1 13 RSW 1
LOADING MOTOR REVERSE 14 LM.R
LOADING MOTOR FORWARD 15 LM.F
LOADING MOTOR TORQUE CONTROL 16 TRQUP
SERIAL CLOCK IN 17 SCK
SERIAL DATA IN FROM OPE MI-COM 18 SO (OP) /SI (SYS)
SERIAL DATA OUT TO OPE MI-COM 19 SI (OP) /SO (SYS)
RESET INPUT 20 RESET
TO BE GROUNDED 21 GND
22 V.SWP VIDEO HEAD SWITCHING PULSE
23 VP QUASI V SYNC OUT
24 CPD CM PHASE CONTROL OUT (PWM)
25 CFV CM SPEED CONTROL OUT (PWM)
26 DPD DM PHASE CONTROL OUT (PWM)
27 DFV DM SPEED CONTROL OUT (PWM)
28 CM LIM CAPSTAN MOTOR STOP CONTROL
29 CM STOP CAPSTAN MOTOR STOP CONTROL
30 CMD CAPSTAN MOTOR GAIN CONTROL
31 OSC2
32 OSC1 MI-COM MASTER CLOCK IN
33 GND TO BE GROUNDED
34 F/R CAPSTAN MOTOR DIRECTION CONTROL
35 FF.UP TORQUE UP WHEN FF START
36 A.MUTE AUDIO MUTE CONTROL
37 PB PB CONTROL PIN
38 EE EE CONTROL PIN
39 PAL/MESECAM PAL/MESECAM SELECT CONTROL
40 TRICK L WHEN TRICK MODE
41 DM STOP DRUM MOTOR STOP CONTROL
42 A.VMM ANALOG MONO MULTI INPUT
AVdd 63 +B
CO 62 CTL PULSE FROM CTL AMP
AGC 61 CTL AMP AUTO GAIN CONTROL
CTLG 60 GND
CTLA 59 CTL AMP AC GND
CTLH 58 CTL SIGNAL INPUT
CTLS 57 CTL AMP SW
RCTLP 56 CTL SIGNAL I/O
RCTLN 55 CTL SIGNAL OUTPUT
TPZ 54 CAPACITOR CONNECTING TERMINAL FOR TRAPEZOID WAVE
CIF 53 CTL CLAMP INPUT
CIR 52 CTL SIGNAL INPUT
VRI 51 SERVO REFERENCE VOLTAGE INPUT
VRO 50 SERVO REFERENCE VOLTAGE OUTPUT
AVss 49 GND
YPG 48 DRUM PG SIGNAL INPUT
YFG 47 DRUM FG SIGNAL INPUT
AFG 46 CAPSTAN FG SIGNAL INPUT
FGF 45 CAPSTAN FG SIGNAL OUTPUT
FGI 44 AFG SIGNAL INPUT
PGMM 43 PG MONO MULTI ADJ
84 ENV.SW ENVELOPE SW INPUT FROM COMPARATOR
83 HASW SP/LP HEAD SELCT CONTROL
82 C.ROT SWP OUT WHEN TRICK MODE
81 V.J IMS IC SYNC INT/EXT SELECT
80 SP TAPE SPEED JUDGE OUT
79 NTSC NTSC MODE CONTROL OUT
78 EXT INPUT SELECT CONTROL
77 CTL.G CTL AMP GAIN CONTROL
76 ANC.VOL ANC CONTROL OUT (PWM)
75 REC.TU N.C
74 Vcc +5V
73 PICT PICTURE CONTROL
72 SS START SENSOR INPUT
71 ES END SENSOR INPUT
70 ENV.DET ENVELOPE INPUT
69 DOC.P N.C
68 S.JUGE N.C
67 SD.P SECAM SIGNAL DET.INPUT FROM PAL CIRCUIT
66 S.JUGE N.C
65 TRP TAKE UP REEL PULSE INPUT
64 VSYN V.SYNC INPUT

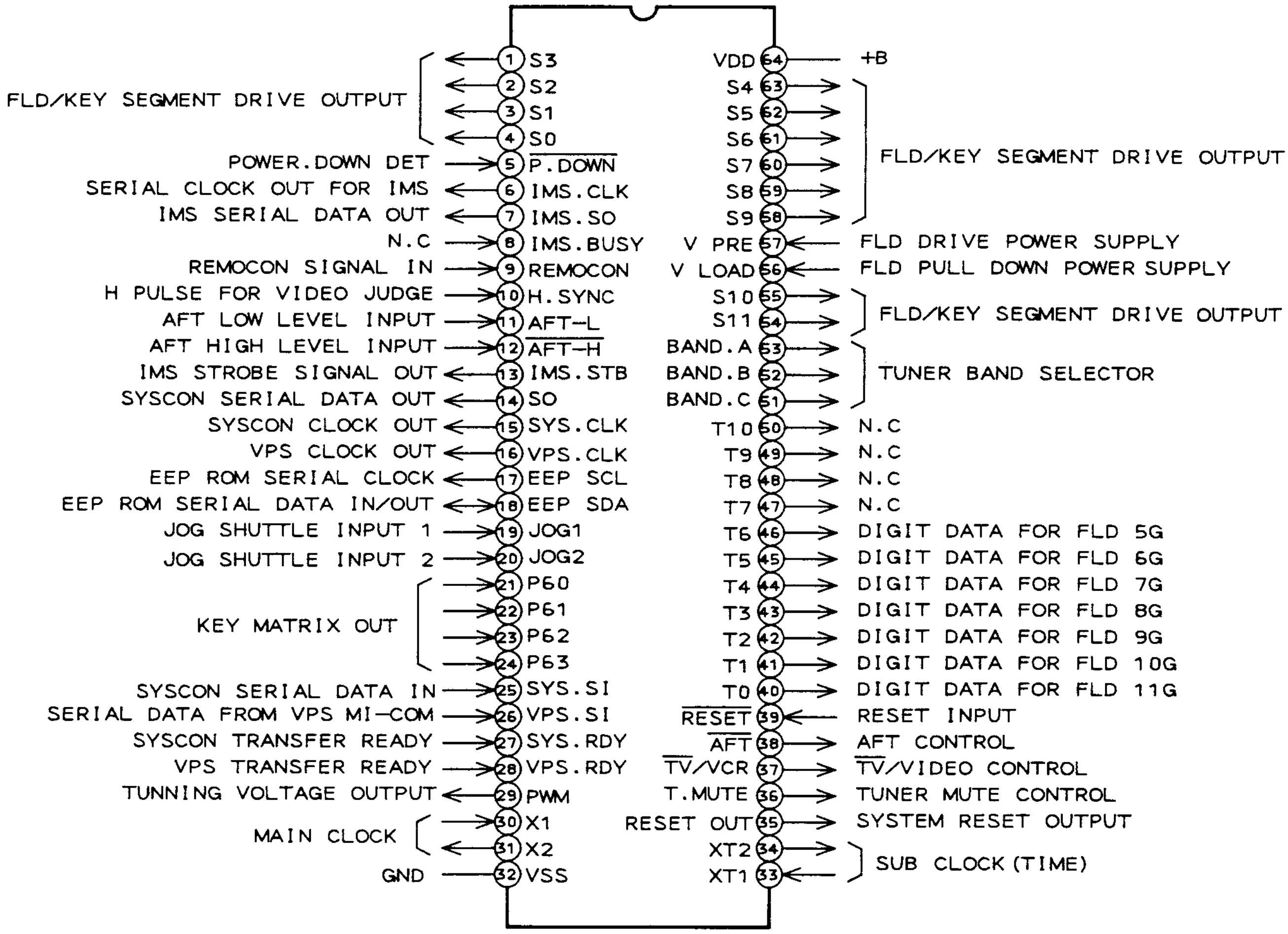
MV1815 (TELETEXT DECODER FOR 625 LINE OPERATION)


VSI
ONH
RESET
XTO
XTI
DATA I/O
SYNC I/O
EXT/INT
VIDEO IN
29
27
13
2
3
15
14
16
19
TIMING AND CONTROL LOGIC
DATA ACQUISITION CIRCUITS
DATA SLICING CIRCUIT
22 TCR
17 BLC
18 WLC
39 EVENT
DATA AND ADDRESS BUS
I² C BUS INTERFACE
37 SCL
38 SDA
VIDEO SWITCH
DISPLAY LOGIC
DRAM CONTROL LOGIC
28
23
24
25
26
10
11
32
33
31
34
36
5
9
CSO
BLN
RED
GRN
BLU
D1
D0
WR
RAS
CAS
A0 ~ A2
A3 ~ A7

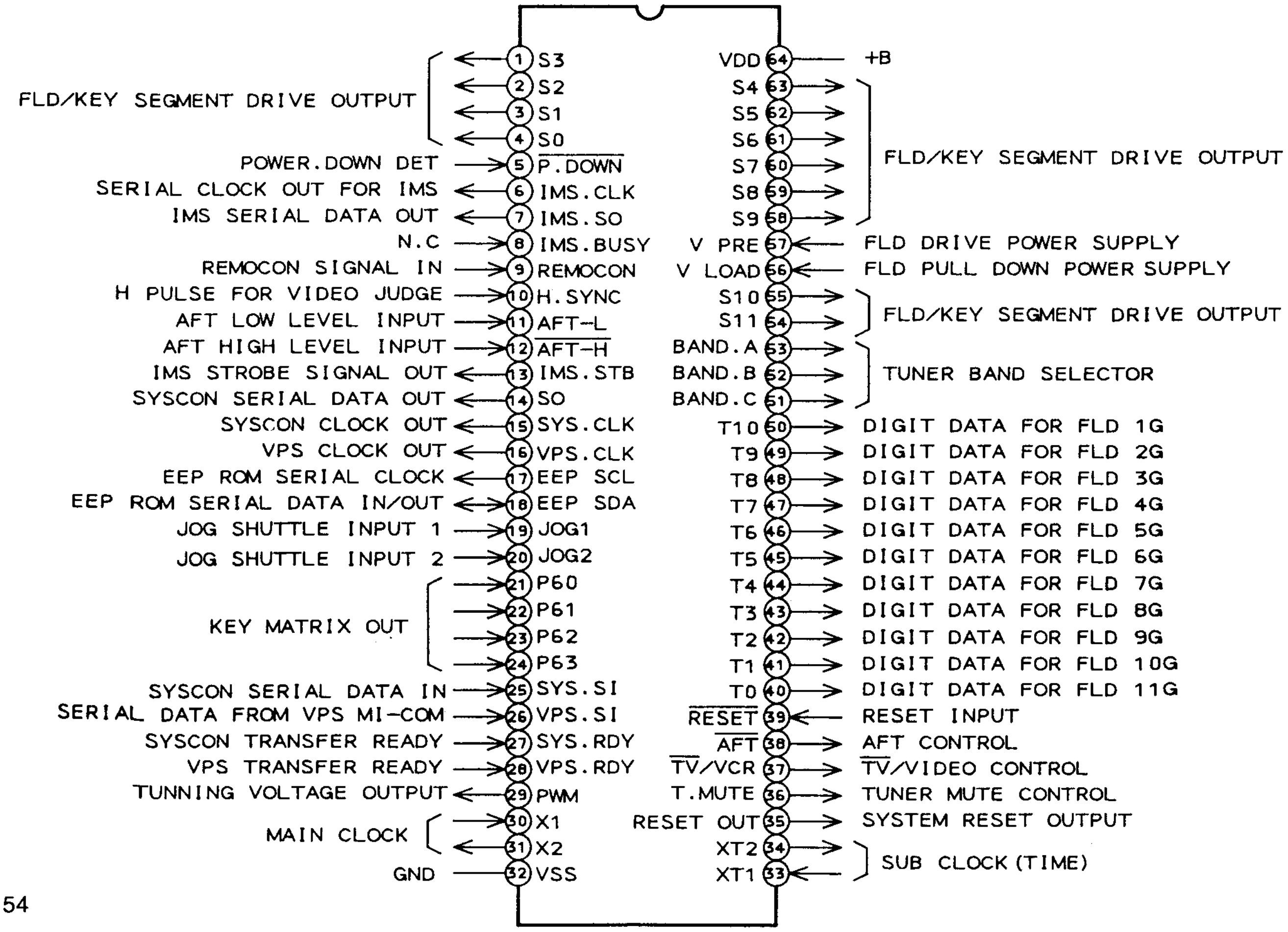
SAA4700 (VPS DATALINE PROCESSOR)


BLACK LEVEL
COMPOSITE SYNC OUTPUT
TEST LINE 16
DATA AVAILABLE OUTPUT
ADDRESS INPUT
5
6
11
12
7
COMPOSITE VIDEO SIGNAL INPUT
SYNC SEPARATOR INPUT
2
DATA SLICER INPUT
1
SYNC SEPARATOR
VCS
FIELD SELECTOR LINE 16 DECODER
LINE16
OUTPUT CONTROLLER
I²C BUS TRANSMITTER
8 SERIAL CLOCK INPUT
9 SERIAL DATA INPUT/OUT
DATA SLICER
DATA
CLOCK REGENERATOR
INPUT CONTROLLER
4
6
5
8
40-BIT REGISTER
40-BIT LATCH
MULTIPLEXER
18 N.C.
OSCILLATOR INPUT VP
13
PHASE DETECTOR
17
PLL WITH 5MHz OSCILLATOR AND PHASE DETECTOR
VCS
CP
TIME BASE
REFERENCES AND POWER-ON RESET
10 EXTERNAL RESET INPUT
14
VP
TEST CLOCK PULSE
3
4
15
16
+5V VP
A.GND
D.GND
DIGITAL SUPPLY VOLTAGE
ANALOGUE SUPPLY VOLTAGE

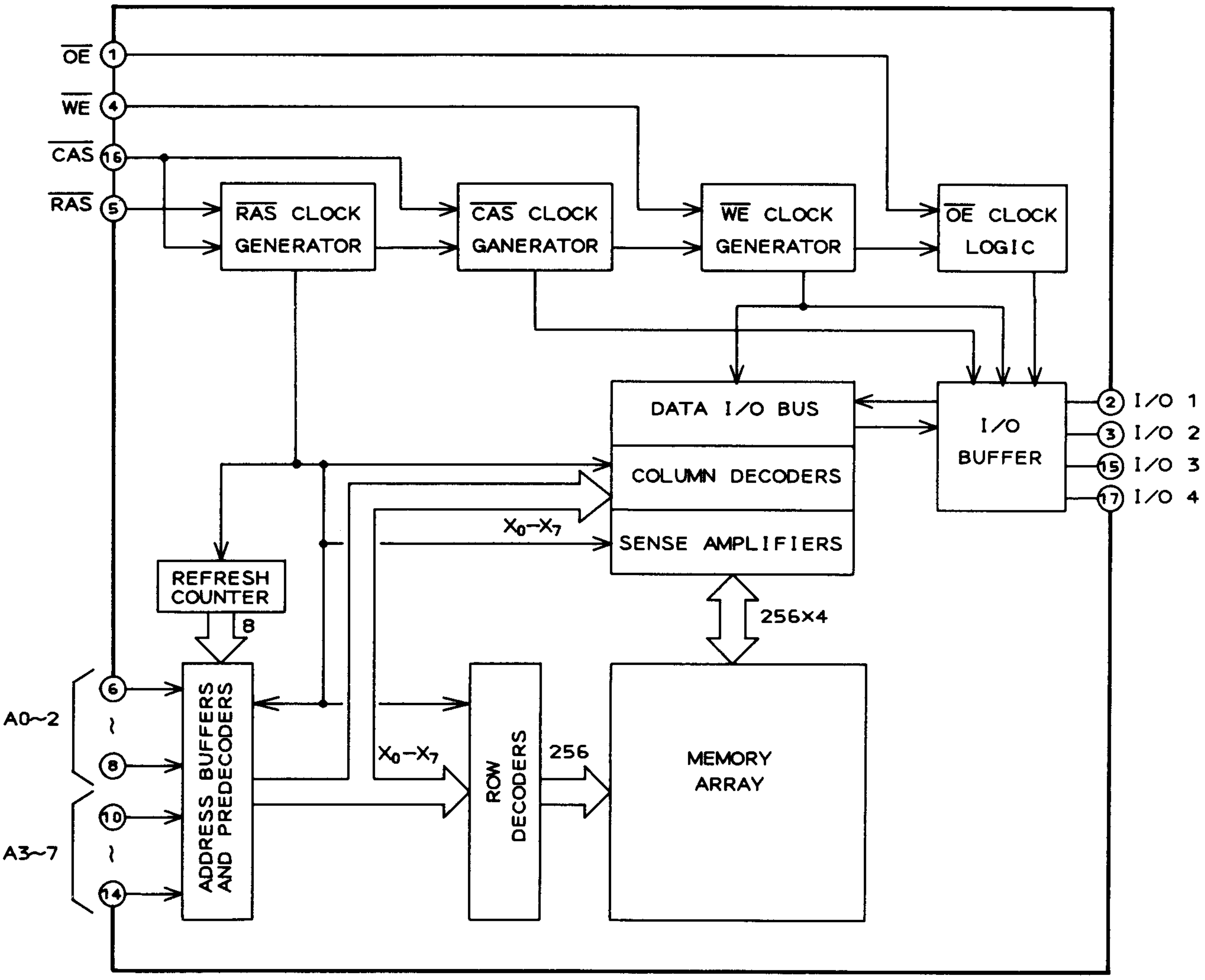
µPD75217ACW (OPERATION MI-COM) (OPERATION (A) ONLY)


FLD/KEY SEGMENT DRIVE OUTPUT
1 S3
2 S2
3 S1
4 S0
POWER.DOWN DET
5 P.DOWN
SERIAL CLOCK OUT FOR IMS
6 IMS.CLK
IMS SERIAL DATA OUT
7 IMS.SO
N.C
8 IMS.BUSY
REMOCON SIGNAL IN
9 REMOCON
H PULSE FOR VIDEO JUDGE
10 H.SYNC
AFT LOW LEVEL INPUT
11 AFT-L
AFT HIGH LEVEL INPUT
12 AFT-H
IMS STROBE SIGNAL OUT
13 IMS.STB
SYSCON SERIAL DATA OUT
14 SO
SYSCON CLOCK OUT
15 SYS.CLK
VPS CLOCK OUT
16 VPS.CLK
EEP ROM SERIAL CLOCK
17 EEP SCL
EEP ROM SERIAL DATA IN/OUT
18 EEP SDA
JOG SHUTTLE INPUT 1
19 JOG1
JOG SHUTTLE INPUT 2
20 JOG2
KEY MATRIX OUT
21 P60
22 P61
23 P62
24 P63
SYSCON SERIAL DATA IN
25 SYS.SI
SERIAL DATA FROM VPS MI-COM
26 VPS.SI
SYSCON TRANSFER READY
27 SYS.RDY
VPS TRANSFER READY
28 VPS.RDY
TUNNING VOLTAGE OUTPUT
29 PWM
MAIN CLOCK
30 X1
31 X2
GND
32 VSS
VDD 64
+B
S4 63
S5 62
S6 61
S7 60
S8 59
S9 58
FLD/KEY SEGMENT DRIVE OUTPUT
V PRE 57
FLD DRIVE POWER SUPPLY
V LOAD 56
FLD PULL DOWN POWER SUPPLY
S10 55
S11 54
FLD/KEY SEGMENT DRIVE OUTPUT
BAND.A 53
BAND.B 52
BAND.C 51
TUNER BAND SELECTOR
T10 50
N.C
T9 49
N.C
T8 48
N.C
T7 47
N.C
T6 46
DIGIT DATA FOR FLD 5G
T5 45
DIGIT DATA FOR FLD 6G
T4 44
DIGIT DATA FOR FLD 7G
T3 43
DIGIT DATA FOR FLD 8G
T2 42
DIGIT DATA FOR FLD 9G
T1 41
DIGIT DATA FOR FLD 10G
T0 40
DIGIT DATA FOR FLD 11G
RESET 39
RESET INPUT
AFT 38
AFT CONTROL
TV/VCR 37
TV/VIDEO CONTROL
T.MUTE 36
TUNER MUTE CONTROL
RESET OUT 35
SYSTEM RESET OUTPUT
XT2 34
XT1 33
SUB CLOCK (TIME)

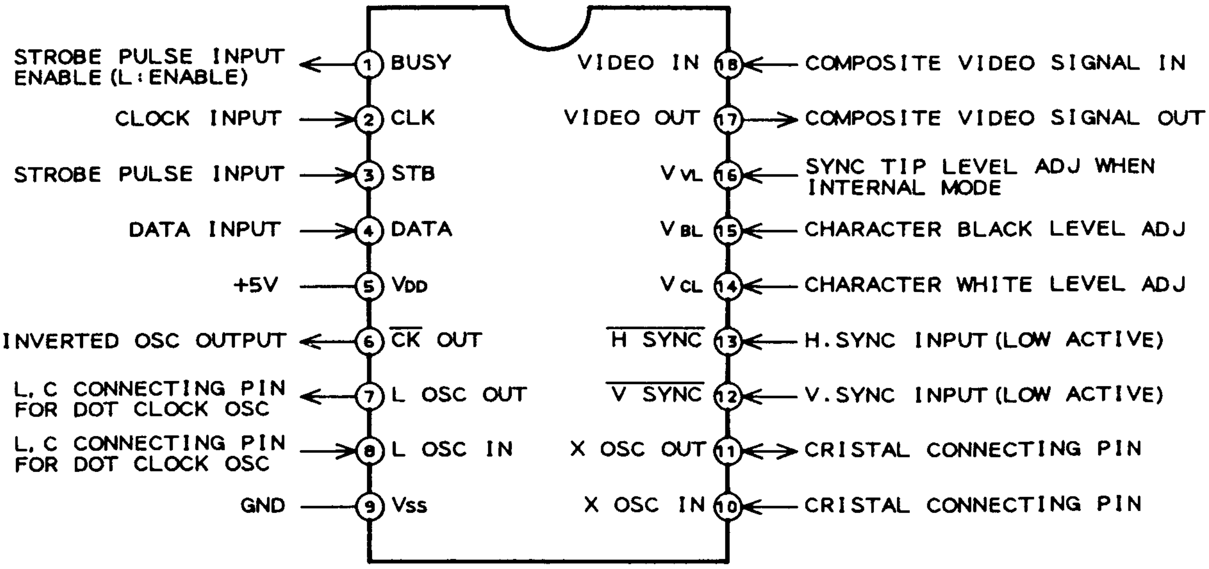
µPD75217ACW (OPERATION MI-COM) (OPERATION (G) ONLY)


FLD/KEY SEGMENT DRIVE OUTPUT
1 S3
2 S2
3 S1
4 S0
POWER.DOWN DET
5 P.DOWN
SERIAL CLOCK OUT FOR IMS
6 IMS.CLK
IMS SERIAL DATA OUT
7 IMS.SO
N.C
8 IMS.BUSY
REMOCON SIGNAL IN
9 REMOCON
H PULSE FOR VIDEO JUDGE
10 H.SYNC
AFT LOW LEVEL INPUT
11 AFT-L
AFT HIGH LEVEL INPUT
12 AFT-H
IMS STROBE SIGNAL OUT
13 IMS.STB
SYSCON SERIAL DATA OUT
14 SO
SYSCON CLOCK OUT
15 SYS.CLK
VPS CLOCK OUT
16 VPS.CLK
EEP ROM SERIAL CLOCK
17 EEP SCL
EEP ROM SERIAL DATA IN/OUT
18 EEP SDA
JOG SHUTTLE INPUT 1
19 JOG1
JOG SHUTTLE INPUT 2
20 JOG2
KEY MATRIX OUT
21 P60
22 P61
23 P62
24 P63
SYSCON SERIAL DATA IN
25 SYS.SI
SERIAL DATA FROM VPS MI-COM
26 VPS.SI
SYSCON TRANSFER READY
27 SYS.RDY
VPS TRANSFER READY
28 VPS.RDY
TUNNING VOLTAGE OUTPUT
29 PWM
MAIN CLOCK
30 X1
31 X2
GND
32 VSS
VDD 64
+B
S4 63
S5 62
S6 61
S7 60
S8 59
S9 58
FLD/KEY SEGMENT DRIVE OUTPUT
V PRE 57
FLD DRIVE POWER SUPPLY
V LOAD 56
FLD PULL DOWN POWER SUPPLY
S10 55
S11 54
FLD/KEY SEGMENT DRIVE OUTPUT
BAND.A 53
BAND.B 52
BAND.C 51
TUNER BAND SELECTOR
T10 50
DIGIT DATA FOR FLD 1G
T9 49
DIGIT DATA FOR FLD 2G
T8 48
DIGIT DATA FOR FLD 3G
T7 47
DIGIT DATA FOR FLD 4G
T6 46
DIGIT DATA FOR FLD 5G
T5 45
DIGIT DATA FOR FLD 6G
T4 44
DIGIT DATA FOR FLD 7G
T3 43
DIGIT DATA FOR FLD 8G
T2 42
DIGIT DATA FOR FLD 9G
T1 41
DIGIT DATA FOR FLD 10G
T0 40
DIGIT DATA FOR FLD 11G
RESET 39
RESET INPUT
AFT 38
AFT CONTROL
TV/VCR 37
TV/VIDEO CONTROL
T.MUTE 36
TUNER MUTE CONTROL
RESET OUT 35
SYSTEM RESET OUTPUT
XT2 34
XT1 33
SUB CLOCK (TIME)

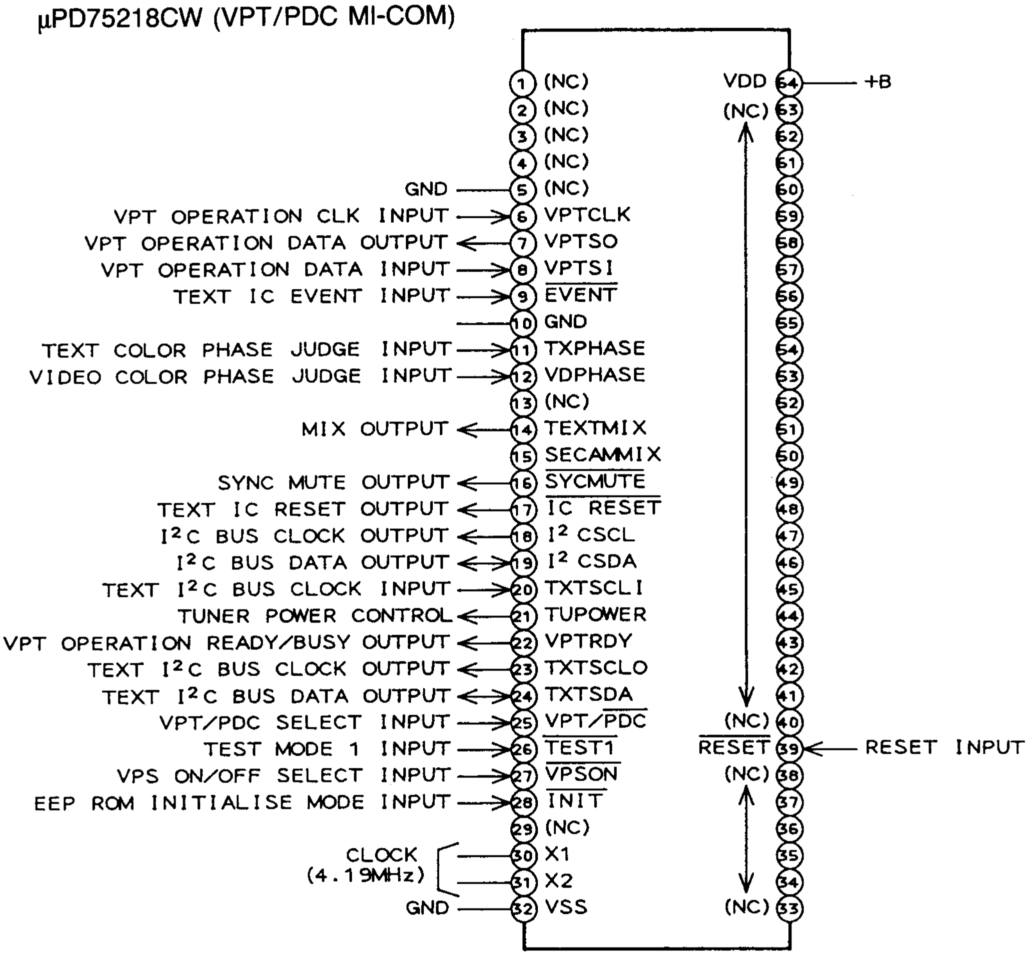
V53C464A (64K ×4 BIT D-RAM)


OE ①
WE ④
CAS ⑯
RAS ⑤
RAS CLOCK GENERATOR
CAS CLOCK GANERATOR
WE CLOCK GENERATOR
OE CLOCK LOGIC
DATA I/O BUS
COLUMN DECODERS
SENSE AMPLIFIERS
I/O BUFFER
② I/O 1
③ I/O 2
⑮ I/O 3
⑰ I/O 4
X_0-X_7
REFRESH COUNTER
8
256×4
A0~2
⑥
⑧
A3~7
⑩
⑭
ADDRESS BUFFERS AND PREDECODERS
X_0-X_7
ROW DECODERS
256
MEMORY ARRAY

µPD6450 (CHARACTER GENERATOR)


STROBE PULSE INPUT ENABLE (L: ENABLE)
① BUSY
CLOCK INPUT
② CLK
STROBE PULSE INPUT
③ STB
DATA INPUT
④ DATA
+5V
⑤ VDD
INVERTED OSC OUTPUT
⑥ CK OUT
L, C CONNECTING PIN FOR DOT CLOCK OSC
⑦ L OSC OUT
L, C CONNECTING PIN FOR DOT CLOCK OSC
⑧ L OSC IN
GND
⑨ Vss
VIDEO IN ⑱
COMPOSITE VIDEO SIGNAL IN
VIDEO OUT ⑰
COMPOSITE VIDEO SIGNAL OUT
V VL ⑯
SYNC TIP LEVEL ADJ WHEN INTERNAL MODE
V BL ⑮
CHARACTER BLACK LEVEL ADJ
V CL ⑭
CHARACTER WHITE LEVEL ADJ
H SYNC ⑬
H.SYNC INPUT (LOW ACTIVE)
V SYNC ⑫
V.SYNC INPUT (LOW ACTIVE)
X OSC OUT ⑪
CRISTAL CONNECTING PIN
X OSC IN ⑩
CRISTAL CONNECTING PIN

µPD75218CW (VPT/PDC MI-COM)



1 (NC)
2 (NC)
3 (NC)
4 (NC)
GND 5 (NC)
VPT OPERATION CLK INPUT 6 VPTCLK
VPT OPERATION DATA OUTPUT 7 VPTSO
VPT OPERATION DATA INPUT 8 VPTSI
TEXT IC EVENT INPUT 9 EVENT
10 GND
TEXT COLOR PHASE JUDGE INPUT 11 TXPHASE
VIDEO COLOR PHASE JUDGE INPUT 12 VDPHASE
13 (NC)
MIX OUTPUT 14 TEXTMIX
15 SECAMMIX
SYNC MUTE OUTPUT 16 SYCMUTE
TEXT IC RESET OUTPUT 17 IC RESET
I²C BUS CLOCK OUTPUT 18 I² CSCL
I²C BUS DATA OUTPUT 19 I² CSDA
TEXT I²C BUS CLOCK INPUT 20 TXTSCLI
TUNER POWER CONTROL 21 TUPOWER
VPT OPERATION READY/BUSY OUTPUT 22 VPTRDY
TEXT I²C BUS CLOCK OUTPUT 23 TXTSCLO
TEXT I²C BUS DATA OUTPUT 24 TXTSDA
VPT/PDC SELECT INPUT 25 VPT/PDC
TEST MODE 1 INPUT 26 TEST1
VPS ON/OFF SELECT INPUT 27 VPSON
EEP ROM INITIALISE MODE INPUT 28 INIT
29 (NC)
CLOCK (4.19MHz) 30 X1
31 X2
GND 32 VSS
VDD 64 +B
(NC) 63
62
61
60
59
58
57
56
55
54
53
52
51
50
49
48
47
46
45
44
43
42
41
(NC) 40
RESET 39 RESET INPUT
(NC) 38
37
36
35
34
(NC) 33